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ARTICLE I.

GENITAL IRRITATION, TOGETHER WITH SOME REMARKS ON THE
HYGIENE OF THE GENITAL ORGANS IN YOUNG CHILDREN.
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Chicago Medical College, etc. (Read before the Chicago Medical Society, October 18, 1880.)

A few years ago the interest of the general practitioner was aroused by brilliant reports of cases of young children in whom a variety of disorders, apparently of the nervous system, had been diagnosed as reflex phenomena caused by irritation of the genital organs, and which were speedily relieved by operative measures, usually either circumcision or clitoridectomy.

Dr. Sayre, of New York, has done, perhaps, as much as any one to call attention to the advisability of a careful scrutiny as to the condition of the *pars genitalia* of infants and children committed to our professional care. This scrutiny should not cease with a simple examination to see whether there be any phymosis or other abnormality, but, when possible, should be made the

occasion for a brief but forcible epitome of an extended lecture upon the advantages of, and necessity for, strict cleanliness and common-sense care of the organs. Explicit instructions and even demonstration are required. The amount of ignorance displayed by the average father and mother as to the proper hygiene of the genito-urinary organs of their children is simply astonishing; and the physician who has his patient's interests at heart must do more than simply hint that care and cleanliness are required; he must show exactly what is to be done and watch to be sure that it is done. These are really matters of vital interest, and there is no excuse for false delicacy.

Excluding consideration of vesical calculus, there are in young male children no lesions of the genito-urinary organs which cause such a varied assortment of reflex phenomena as those connected with the prepuce, and which may be mentioned as follows: phimosis pure and simple, preputial stenosis, partial or complete preputial adhesions, and retention of smegma. To this enumeration might be added complications of any or all of these conditions.

The prepuce is always relatively long at birth, but can usually be easily retracted. If retraction be practiced from the outset, and strict cleanliness be observed, all goes well. But let the nurse be ignorant and the medical attendant inattentive and adhesions gradually take place, while the smegma accumulates, and we have then a condition pretty certain to cause mischief *some* time unless remedied.

When the adhesions are quite complete the smegma, after a time, ceases to collect, and there may follow, as a result of pressure, a partial atrophy of the glands which secrete it; while the substance itself may possibly undergo a calcareous degeneration and be noticeable as a concretion beneath the prepuce. This condition, while very seldom met with here, is not infrequent in certain quarters of the globe. In cases where the adhesions are not so complete, or especially where there is such stenosis of the preputial orifice that there occurs a ballooning of the foreskin with each effort at micturition, the retained smegma is never allowed to harden, but is at short intervals macerated in urine, and finally, by its own accumulation and by the deposition of

urinary salts, the preputial sac becomes filled up with a pulsataceous debris which may extend it to a remarkable degree.

That such a state of affairs must beget deleterious results is evident. The disorder thus set up at one end of the urinary tract is not always limited to its place of origin, but may cause in succession a balanitis, urethritis and cystitis, until, at last, the kidneys are affected, and then, if not before, the constitution suffers severely. Dr. J. C. Hupp has reported (*Trans. Med. Soc. W. Va.*, 1879) an interesting case of a patient who, at an advanced age, succumbed to a complication of these troubles resulting from a congenital phymosis.

It may be asked how it happens that we find very few cases of phymosis in adults when we have so large a proportion—as I shall show—among children? The answer is that a spirit of investigation or prurient curiosity leads most of our lads to discover that a phymosed condition of the prepuce is not a natural or conventional one, and that the discovery leads to efforts to correct it. Constant efforts to retract the prepuce amount to a rational, gradual dilatation, and, if persisted in, will usually prove successful. Children brought up in towns and cities, or who are sent to public or private schools, very soon either discover for themselves or are taught to recognize any little anomaly in this portion of their anatomy, and the ridicule to which this subjects them among their playfellows leads to arduous and sometimes injurious efforts to correct it. To such an extent is this true, that when I see a young man with a phymosis, I usually find that he was brought up apart from other children.

There cannot be the slightest doubt that the irritation of the retained smegma, of partial or complete adhesions, or of a contracted orifice to the foreskin, is the frequent inciting cause not only of the various nervous phenomena to which general attention has been drawn, but also of masturbation and some forms of hysteria. Indeed, more than one boy has confided to me that his habits of self-abuse dated from the time when he instituted efforts to make his prepuce resemble those of his comrades.

Another inquiry which suggests itself is this: If this condition of affairs is capable of engendering so much mischief, and if it is so common, why do we not hear of more cases of serious

nervous disturbance caused by it? I would answer such a question by saying that, in the first place, I think that, as a correct explanation of some cases of nervous disorder in children, it is still overlooked; and, in the second place, that we are inclined to forget to what an extent the impressionability of different children may vary. If genital irritation may cause convulsions in one case, paralysis in a second, or club-foot in a third, it may also cause urticaria, or indigestion, or diarrhœa, or incontinence of urine in yet others. In fact, I shall briefly report two cases of chronic diarrhœa in little boys, which resisted all medication, but were speedily relieved by removing the irritating causes about the genitals. And in a number of cases I have broken up the disgusting habit of wetting the bed at night by freeing the glans from some adhesions between it and the prepuce.

Every recent writer has called attention to the prominence of complete or partial phymosis in the etiology of nocturnal incontinence, and an enthusiast, realizing how common the condition is, may be deluded into the idea that all he has to do to break up the habit at once is merely to release the foreskin by simple and appropriate measures. But, in the majority of cases, said enthusiast will be deceived, because he loses sight of the fact that the habit has become firmly established by the time he is called upon for advice, and by looking for immediate relief he displays an overweening impatience. Let the operation be performed by all means, if indicated, and then, if needed, belladonna and strychnia with other nerve tonics and sedatives may be used; and then, too, proper moral suasion may be resorted to, with prospect of success.

If, beside asking the above two questions, one shall persist still in pointing out numerous individuals who have reached adult life with a prepuce in one of the conditions described, and who have never suffered in consequence, and if he shall argue upon these premises that undue prominence is given to the subject, I can still reply that many—though perhaps not *as* many—go through life with much more serious congenital variations or anomalies whose existence is never heard from or detected; and that the mere

fact so many do escape serious trouble does not necessarily imply that others may not suffer severely, as they unquestionably do.

I have not been able to find any literature which would give any idea as to the comparative immunity from preputial lesions which children may enjoy, or as to the percentage of cases in which we may expect to find some deviation. Having surgical supervision of an institution in which over one hundred children are cared for constantly, I concluded to investigate for myself. By the opportunity thus afforded me, and from my notes of dispensary and private practice, I find that I have recorded the condition of the prepuce in one hundred and fifty-three boys under nine years of age. For convenience I have classified them as follows :

	Number: Percentage.	
I. Cases permitting easy and perfect retraction of the prepuce.....	30	19.62
II. Cases of slight or partial adhesion, with little or no retained smegma.....	48	31.37
III. Cases of complete or nearly complete adhesion, without stenosis, but with retained smegma, of course.....	36	23.53
IV. Cases of preputial stenosis, in which retraction was out of the question, and adhesions only to be detected by using a probe.....	39	25.48
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	153	100.00

It will be understood that the ages of those examined varied within considerable limits—some of them being infants at whose accouchment I had assisted; and still I think that my percentages will not be found far out of the way. Assuming that they represent the general average, we glean the information that only one young boy in five can easily and completely retract the prepuce. Observation confined entirely to children in the higher, or those of the lower, walks of life, may seem to make this statement incorrect; but mine is an average of all cases.

Further than this, and lending additional plausibility to my remarks in the first part of this paper, I found that of the *infants* I examined, nearly all who did not belong to Class I, did

belong to Class IV; in fact they were about evenly divided between the two classes. This would seem to indicate that we must consider adhesions among the *acquired* forms of phymosis, so to speak. I have already remarked that the prepuce is usually long at birth. But we may draw a legitimate inference from the above that if properly directed efforts are made to date from the time when the infant receives its first bath, there would then be little difficulty in properly exposing the glans and cleaning the parts every day, and no excuse for negligence about the matter.

If preputial stenosis really do exist, the prepuce should be either slit along the dorsum, taking care to go back of the corona, the corners well rounded off and fine interrupted sutures used; or the ordinary operation of circumcision may be made. In either case any tendency to adhesion of raw surfaces may be prevented by the use of oil or some light dressing, while for the outside dressing cold water is perhaps the best.

Where simple adhesions exist a little judicious force and a little dissection by scratching with the point of a fine probe or knitting needle will be all-sufficient. For this anesthetics are not required; for incision and stitching it is well to use them. It is well to do whatever is done as early in life as possible, for, even if nothing worse happens, stunted development of the parts may be the result of the delay.

In a number of the lads included in my second and third classes I liberated the prepuce as just described, with more or less advantage in many cases. In some it relieved the nocturnal enuresis; others were taught to regard it as a punishment for their incipient tendency to habits of self abuse; and I am happy to say in most of these latter cases it proved effectual. And in many of the cases of Class IV, wherever it was feasible, I either slit up the dorsum, or circumcised.

Paralysis and convulsions are the lesions most commonly referred to genital irritation. I have never happened to see a case of paralysis in infant or boy which I could so refer; but I have not only seen but relieved by appropriate measures infantile convulsions, general incoördination of the movements of the lower extremities, incontinence of urine, excessive irritability and nerv-

ousness, a condition of frequent semi-priapism, indigestion accompanied by a sympathetic papular eruption, chronic diarrhœa, and stunted development of the genitals; all of which could only be ascribed, after careful study, to irritation caused by one or other of the congenital or acquired forms of the lesions I have mentioned.

I doubt whether pronounced imbecility can be regarded as a reflex phenomenon of this kind; but I am sure the mental condition of all these children was improved *pari passu* with their general health. In the *N. Y. Med. Record*, April 6, 1878, there is an account of a visit made by Dr. Sayre and others to the Idiot Asylum on Randall's Island, during which visit he carefully examined the external genitals of sixty-seven of the children, operating on a number of them. While he undoubtedly benefited some of them in a way easily recognized, there is no evidence going to show that any genital lesions from which they happened to be suffering had a causative relation to their imbecility.

Of the one hundred and fifty-three little boys whom I examined, a number suffered from inguinal hernia; just *how* many I am unable to state, but, I am sure, at least twenty. My attention was not attracted by this coincidence at first so that I did not note my cases, in this respect, as carefully as I should have done. But I am sure the larger proportion of those thus affected were ranked among Class IV in my enumeration. Indeed I have never seen more than one or two children who could be placed in Class I who had any form of rupture. It is not difficult to understand how the muscular effort required to force the urine through a stenosed preputial orifice, when frequently repeated, month after month, should be sufficient to gradually cause a hernial protrusion, particularly if the parts be congenitally weak. Or it may occur before the canal (corresponding to the canal of Nuck, in the female) is completely occluded, and thus cause what is to all intents and purposes a congenital inguinal or scrotal hernia. This seems to me by far the most rational explanation of most if not all of the cases I have seen.

The possibility of diabetes mellitus occurring as the reflex result of phymosis has been broached. While I have seen one case of

long standing glycosuria in a young man affected with congenital phymosis, I do not feel justified in drawing any conclusions from it, because he declined the operation. At the recent meeting of the American Medical Association⁷ (New York, June, 1880), Dr. Maxwell, of Delaware, reported the case of a boy, five years old, suffering from phymosis and diabetes. He circumcised the little patient and all traces of sugar quickly disappeared from the urine. This report was made in the discussion which followed Dr. G. M. Beard's paper on "Phymosis as a Cause of Nervous Symptoms," etc. Dr. Beard detailed a long list of neurasthenic symptoms in addition to those previously mentioned by other writers. These, he said, might be caused or aggravated by phymosis, or the presence of this condition might interfere with their cure. There is a hint thrown out in these last few words of whose truth my own experience has convinced me. It is that while phymosis and allied conditions may not necessarily be active exciting causes of nervous trouble, they may yet be passive obstacles to recovery from general or purely nervous disorders.

Dr. Beard also took the ground that when the nerves seemed exhausted, and the system debilitated, then local irritation might become the cause of nervous symptoms which would not otherwise have developed. He also laid stress on the reminder that immediate or startling results were not to be expected from operative treatment, the justness of which will be obvious to all; and, furthermore, that accessory and supplementary treatment may, at times, be needed. In his own practice out of eighty cases of general and sexual neurasthenia, thirty one—over one-third—had either phymosis or adherent and redundant prepuce. This, moreover, among adults.

In considering this subject one other feature has occurred to me, and that is, the practicability of doing circumcision or some similar operation as a revulsive measure, or with a view of correcting an abnormality and at the same time establishing a temporary but pronounced counter-irritation, in cases not seeming to especially demand it. More than one surgeon and neurologist has advised circumcision in idiots, imbeciles and the insane. Any suggestion to this effect would, however, be swallowed up in the general principle that no boy ought to be allowed to grow up

with any abnormal condition of the prepuce. If general experience has not already shown the fundamental importance of this principle, the time is not far distant, in my opinion, when it will be clearly shown.

It is not necessary to recapitulate the disadvantages of an abnormal prepuce; they have already been considered at sufficient length. But a very brief reference to the advantage of a normal one may be allowed. In the first place it is undoubtedly the condition intended by nature, and is evidently the standard aimed at, judging from a majority of specimens of adult life. Second, a fertile cause of nervous irritation is avoided. Third, infection from venereal disease is certainly more probable where perfect cleanliness is impossible, and, *per contra*, when the parts can be thoroughly cleaned infection is much less likely to happen. Fourth, if venereal disease do exist, as for example, chancreoid or gonorrhœal balanitis, it is of gravity in proportion as its site is concealed; when the diseased portion can be exposed it can be much more satisfactorily treated. Lastly, lack of cleanliness is said to be a predisposing cause of epithelioma.

The more, therefore, we consider the disadvantages of the abnormal condition and the advantages of the normal one, the more particular we should be to give our little patients the benefit of our knowledge. And every parent who has his child's best interest at heart can be soon made to see the reason of it and second the physician's efforts.

I will conclude by a very brief report of two cases referred to in the body of this paper: Two little boys under my care, one three, and the other five years of age, had both suffered for months from chronic diarrhœa. The former, the younger, when but ten months old had been operated on by a New York surgeon of note for the relief of a congenital phymosis. By the neglect of a careless mother he relapsed into as bad a condition as ever, having preputial stenosis and complete adhesions. He was excessively nervous and peevish. Although his diet was restricted his diarrhœa was only partially checked by medicines, never completely relieved. The other lad had a congenital phymosis with complete adhesions. His appetite was ravenous and his food usually passed through but little changed. Medicine

seemed to do no good. He was emaciated, irritable, and suffered from prolapsus recti.

About the same operation was made in either case, to restore the normal relations of the parts. Both speedily improved in every respect. The former I saw several times, the latter I heard from; and in both the good results seemed permanent.

There are now so many cases of cure of infantile convulsions by circumcision on record, that I do not think it worth while to report any in addition. Nor would I be understood as hinting that phymosis is a common cause of diarrhoea or the other disorders I have mentioned; I simply have introduced these two cases as samples, exemplifying what a variety of lesions genital irritation may produce, and showing the advantage and the necessity of always examining the genital organs of young children, no matter what may be the malady we are called upon to treat.

1558 WABASH AVE.

ARTICLE II.

OVARIAN CYSTS COMPLICATED WITH HERNIA, HÆMORRHOIDS, PROLAPSUS VAGINÆ AND FIBROID TUMORS OF THE UTERUS—SUCCESSFUL OVARIOTOMY. (Read before the West Side Chicago Medical Society, May 10th, 1880.) By T. P. SEELEY, A.M., M.D.

The following case, owing to its complications, doubtful diagnosis at first, and the length and variety of treatment tried, seems to justify a somewhat detailed description.

As it is stated by the patient that she has the names of 150 physicians who have visited her during the five years of her suffering, some may recognize an old acquaintance.

Being called to see the patient, Mrs. M. W., in the night of April 21st, 1876, I found her suffering extremely from abdominal pains somewhat intermittent in character.

On inspection, the abdomen was found about the size of the sixth month of pregnancy, somewhat tympanitic and tender. She was suffering also from inflamed hæmorrhoids, which, with

great constipation of the bowels, had been a source of misery to her for years.

A digital examination revealed a great enlargement and prolapsus of the uterus and inflammation of the os. For immediate relief of her intense suffering, I gave a hypodermic injection of morphia and atropia, and ordered a warm stimulating enema to empty the constipated bowels.

The patient, who was forty years of age, American, of spare build, dark complexion, with a face indicating much energy of character, informed me that she had suffered from painful menstruation from childhood; had been married twice—at twenty-three and twenty-eight years of age—had one living child ten years ago and four abortions since.

In the years of 1872 and 1873 she had several attacks of fever, with severe pains in the left ovarian region, lasting one or two months.

In 1874 and 1875 she suffered very much from menorrhagia, piles and dysuria, and in January of 1876 a hernia was discovered on the right side, she having been under the treatment of several prominent homœopathic and eclectic physicians. The next day, April 22d, the bowels having been thoroughly evacuated, on examination by palpation and percussion, a firm, irregularly rounded tumor, of about the size of the fist, was found just below the umbilicus.

On a vaginal examination, the tumor, which seemed an enlargement of the uterus, was found quite hard and only slightly moveable.

On using the speculum, a small elastic catheter, with stylet, was passed five inches into the uterus, the ordinary sound being prevented from entering by a flexure of the canal. The tumor was diagnosed as a fibroid of the uterus, the diagnosis being afterwards confirmed by several other physicians.

As she objected to hypodermic injections, which were first tried, she took by mouth Squibbs' fluid extract of ergot 15 to 20 drops three times a day.

The bowels were regulated by aperients and diet, and occasional attacks of colic were relieved by warm enemas, antispasmodics, and anodynes. Under this treatment her general health

was much improved and her size considerably diminished, the circumference at the umbilicus being reduced in three months from 38 to 32 inches.

During my absence at the Centennial exposition she passed into other hands for a time, but the following April returned to me, increased in size and suffering much from hæmorrhoids, constipation and dysuria. The ergot was resumed, with other suitable treatment, including the Faradaic current and a Hodge pessary to support the uterus. Temporary relief was afforded, but the tumor continued to increase, and another developed on the right side. At the time of the meeting of the American Medical Association in this city, in 1877, I invited Dr. E. Cutler, of Boston, who had read a paper giving the favorable results of galvano-puncture in a large number of cases of fibroids, to see the patient with me. As he thought the case favorable for the operation, and the patient readily consented, at my request and in the presence of Drs. Byford, Clarke, and other medical gentlemen he introduced one needle into the tumor but, finding, on a microscopic examination of the fluid, removed by the needle, characteristic ovarian corpuscles, he proceeded no farther. The puncture healed readily, and very little pain or inconvenience resulted from the operation.

As it seemed to me that we had a fibroid of the uterus, as well as an ovarian tumor or two, the continued current of electricity was tried for some time with apparent benefit, and the patient was for some time under the care of specialist electricians.

The 13th of March, 1878, I was again sent for, and found her increased in size and all her old symptoms aggravated, the left tumor being somewhat fluctuating, though still quite tense. The piles were enlarged and very painful, and there was prolapsus of the vagina, with the uterus forming a tumor of the size of the two fists projecting from the labia. Dyspnœa had gradually increased, and several times she had severe attacks of vomiting, ejecting a large quantity of dark fluid and getting temporary relief. Her bowels were irregular, and she was much troubled with colic.

On the 22d of March, with the assistance of Drs. Wm. E. Clarke and C. E. Davis, I used the aspirator, and drew off about

a quart of fluid, giving temporary relief, followed in a few days by the return of all her distressing symptoms. The patient at length consented to the operation of ovariectomy, and the day was appointed for its performance; but it was postponed on account of the appearance of menstruation, which had been absent several months. At this time her attention was called to the reports in the daily papers of several cases of remarkable cures of ovarian tumors by Dr. E. W. Edwards. As she and her friends were very anxious to try the reputed cure by medicines, which I was informed by Dr. E. consists essentially of the use of large doses of iodide of potassium internally, a plaster of belladonna with iodine applied to the abdomen and the application of a saturated solution of iodine in creosote to the inner surface of the uterus after dilatation with sponge tents; and as he promised a cure in about six weeks, I thought best to give the case entirely into his hands.

The patient was under his treatment for about fifteen months, when she again sent for me in October of 1879. She said that at first, and at times when she could take them, Dr. E.'s medicines reduced her size, but that her stomach was so weak she could not take them constantly, and this was the reason the doctor gave for not curing her. She had also had a prolonged attack of typhus fever (so called), which was another excuse for the failure of the cure.

Her symptoms were all aggravated, and she was much emaciated and weaker.

On measurement I found she had much increased in size, the circumference at the umbilicus having increased from 35 inches on April 20th, 1878, to 43½ inches October 19th, 1879, the distance from the ensiform cartilage to umbilicus, 6½ to 12 inches; umbilicus to symphysis pubis, 6½ to 9 inches; umbilicus to right superior spinous process, from 7½ to 13½ inches; and to the left, 9 to 14½ inches.

Despairing of all other means of relief, she was now fully resolved to have the operation, thinking that she might better die on the operating table, as Dr. Edwards kindly informed her she was sure to do if she submitted to the operation, than by slow torture.

Although she was suffering from dyspnoea and a slight bronchitis, caused either by a cold or the irritation of the tumor, it was thought unwise to delay the operation.

On the 8th of November, 1879, with the assistance of Drs. Byford, Clarke, Bartlett, Bridge, Danforth and Davis, Dr. E. W. Lee being present, the operation was performed. It occupied about an hour and a half, and was made under a continuous carbolized spray, ether being used for anæsthesia. An exploratory incision was first made midway between the umbilicus and pubis, in the linea alba, and then enlarged to about 9 inches in length, extending from about an inch above the pubis to an inch above the navel. Two large multilocular cysts were found and tapped, and 40 lbs of fluid removed by the trochar. There were extensive adhesions that were separated with the fingers, and a portion of the adherent omentum with vessels was ligated and cut away. The left and largest tumor was first lifted out, and the pedicle, about an inch and a quarter in diameter and three inches in length, was secured by passing a double braided carbolized silk ligature through the center, tying on each side and cutting them off short, the stump of the pedicle being left about an inch in length. The tumor on the right side was treated in the same manner.

Two sub-serous fibroids, about an inch in diameter and an inch and a half in length, were found attached to the fundus of the uterus, but left, as not likely to grow after the removal of both ovaries.

There was very little hæmorrhage. The cavity was carefully washed out with soft sponges, one being left in the cul-de-sac till the wound was nearly closed to absorb as much as possible of the blood and serum. The incision was closed with carbolized silk ligatures, passed with round needles from the inside, and about half an inch apart, pains being taken to have the inner surfaces of the edges of the peritoneum in contact. The last and lower stitch was taken with a common curved, lance-pointed needle, which was passed in at one side and out at the other. I mention this thus particularly, as the stitch was the only one that failed to heal readily, and there was ulceration along its course in the one lip through which the puncture was made from the

outside. Nearly an inch of space was left between the last stitch and the end of the cut, so that a drainage tube might be inserted if necessary.

Whether it was the character of the puncture, or the less perfect coaptation of this portion of the wound, which prevented its healing and caused the abscess in one lip, and whether the continuous discharge which was kept up by tents contributed to or retarded the final cure, are questions of interest.

The wound was dressed and supported with adhesive straps, carbolized cotton compresses and bandages.

The two tumors, with contents, weighed forty-five pounds. The patient bore the ether and operation well and rallied favorably.

At ten p. m. there was some pain in the abdomen, increased by occasional coughing. The temperature, $100\frac{1}{2}$, pulse, 90, respiration 22. About half a pint of urine was drawn with the catheter. As she was quite thirsty she was allowed to drink frequently small draughts of cold water. Gave 10 minims of Magendie's solution of morphia by hypodermic injection.

Sunday, 9th.—Patient rested well except when disturbed by cough. Temperature, $100\frac{1}{2}$; pulse, 98; respiration, 24. The nurse had used the catheter at 4 a. m., and relieved her of a good quantity of urine. At $10\frac{1}{2}$ the patient vomited, causing considerable pain. A hypodermic injection of 12 minims of Magendie's solution was given. As she had become somewhat accustomed to the morphia during her sickness, rather large doses were thought necessary to allay her pain. At $12\frac{1}{2}$ p. m. she had nausea and vomited. Temperature, $101\frac{1}{2}$; pulse, 130; respiration, 16. Has hiccupped for a few minutes. $4\frac{1}{2}$ p. m.—Cough troublesome. Temperature, 102; pulse, 120; respiration, 22. Rx. Ammonia muriat, ammoniæ carb, $\text{āā } 5j$. tincturæ camph., glycerin., syrup. limonis, $\text{āā } 5j$. Take a teaspoonful every three hours. 11 p. m.—Feels pretty well, but is occasionally disturbed by cough; has taken some milk porridge during the day and the catheter has been used with success every six hours. Temperature, 102; pulse, 128; respiration, 27. Hypodermic injection of 10 minims Magendie's solution. To have beef-tea and milk punch in small quantities.

November 10th, 9 a. m.—Slept quite well during the night. Temperature, $100\frac{1}{4}$; pulse, 120; respiration, 20; took beef-tea and punch several times; coughed and urinated without catheter at 3 a. m., and very freely with catheter at 8 a. m. She is quite talkative and hopeful this morning and would be very comfortable were it not for the cough. $4\frac{1}{2}$ p. m.—Has taken cough mixture every three hours and has vomited mucus twice. Temperature, $100\frac{1}{4}$; pulse, 112; respiration, 24. 11 p. m.—Cough troublesome, raises considerable mucus after attempts at vomiting. Temperature, 101; pulse, 112; respiration, 22.

November 11th, 10 a. m.—Patient has had much colicky pain for three hours. A warm enema of a solution of common salt being used has just secured a free movement of the bowels, with much flatus and given great relief. Temperature, 100; pulse, 108; respiration, 15. Used 10 min. Magendie's solution. $5\frac{1}{2}$ p. m.—Has been quite comfortable since operation of the bowels. Temperature, 100; pulse, 104; respiration, 18. 10 p. m.—Has taken considerable beef-tea and porridge during the day. Temperature, 102; pulse, 108; respiration, 20.

November 12th, 10 a. m.—Slept most of the time till 4 a. m., then vomited and was quite restless with colicky pain till $5\frac{1}{2}$, when she received a warm saline enema and passed a consistent stool and large amount of flatus. Temperature, $99\frac{1}{4}$; pulse, 104; respiration, 20. $3\frac{1}{2}$ p. m.—Has had considerable pain, another movement of the bowels and passed urine without catheter. Ordered Magendie's solution, 10 min. by mouth, every three hours. 11 p. m.—Quite comfortable, though she had what she calls a sinking spell on waking at $4\frac{1}{2}$ p. m., felt quite faint and hands and feet were cold. Temperature, 100; pulse, 108; respiration, 18. Is to take only sufficient morphia to allay pain and secure rest. Has beef-tea and milk punch as required.

November 13th, 11 a. m.—Patient feeling quite well and hungry; took some bread and butter and tea. Temperature, $99\frac{1}{4}$; pulse, 100; respiration, 16.

Dr. Bartlett coming to use the spray, she was much excited at the idea of an operation and vomited freely, the only time in the last twenty-four hours.

Dressed the wound under the spray, removing part of the

stitches, union having taken place to a large extent. The wound was looking well, there being only a trace of pus. 11 p. m.—Has urinated without catheter about once in four hours; has quite severe pain. Gave hypodermic injection of 15 minims of Magendie's solution. Temperature, 99; pulse, 96; respiration, 18.

November 14th, 11 a. m.—Has rested well and is in good condition; has taken some toast, etc., and a small piece of beefsteak for breakfast. Little variation of temperature, pulse and respiration.

November 15th, 10 a. m.—Temperature, $99\frac{1}{2}$; pulse, 90; respiration, 18. Has had much colicky pain, of which she was relieved as usual, by a warm saline enema. Removed the remaining sutures without the spray. The parts are united with the exception of about an inch of the lower and superficial portion of the wound. A tent of carbolyzed lint was inserted for drainage and coaptation effected by compresses and rubber adhesive straps. She continued about the same, her appetite, secretions and rest being quite good, until the 19th, when she had a good deal of pain; the pulse rose to 112; temperature, 101; respiration, 17. A warm enema again secured a good movement and relief.

November 20th, 11 a. m.—Temperature, 100; pulse, 108; respiration, 18. Passed a restless and uncomfortable night. 11 p. m.—Temperature, $101\frac{1}{2}$; pulse, 108; respiration, 19. Rather thin movement of the bowels, without enema; not feeling so well; seems weaker and quite despondent.

Ordered $2\frac{1}{2}$ grains of quinine in capsules every 4 hours. Magendie's solution 10 min. at night.

November 21st, 11 a. m.—Rested fairly. Temperature, 101; pulse, 108; respiration, 18. Feels better. Continue quinine. 10 p. m.—Temperature, 101; pulse, 104; respiration, 19. Magendie's solution 10 min.

November 22d, 11:30 a. m.—Temperature, 101; pulse, 100; respiration, 18. Quite comfortable. Little change in the evening.

November 23d, 12 m.—Temperature, $101\frac{1}{2}$; pulse, 100; respiration, 18. Has had severe colicky pains, only partially removed by enema and movement of the bowels. Magendie's solution 10

min. was given to allay pain. 10:30 p. m.—Temperature, $102\frac{1}{4}$; pulse, 108; respiration, 18. Feverish and tossing about. Continue quinine, followed by 15 drops of tincture of chloride of iron every 4 hours; had 10 min. of Magendie's solution at 10 o'clock.

November 24th, 10 a. m., the sixteenth day after the operation.—This morning at 4 o'clock, soon after partly raising to cough and turning to lie on her right side, the patient had a large discharge of thin, dark serum of fecal odor from the lower part of wound. On compressing the abdomen some more came out. Cleansed and dressed wound as usual.

The patient seemed much relieved by this discharge, and is feeling quite comfortable. Temperature, 98; pulse, 90; respiration, 17. 6:30 p. m.—Temperature, 98; pulse, 84; respiration, 18. Continued quinine and iron.

November 25th, 11 a. m.—Temperature, $97\frac{3}{4}$; pulse, 80; respiration, 17. The patient is feeling very cheerful and the wound looking well, there being only a small discharge of pus. 11 p. m.—Temperature, 98; pulse, 72; respiration, 17. Has had a large discharge of hardened feces.

November 26th, 12 m.—Temperature, 98; pulse, 84; respiration, 18. Feeling well. Omit morphia solution, which has been given as needed to control pain. Continue quinine and iron.

November 27th, 11 a. m.—Temperature, 98; pulse, 78; respiration, 18. Syringed abscess with warm carbolized solution, none passing into the cavity of the abdomen. Continue quinine and iron every six hours. 10:30 p. m.—Temperature, $98\frac{1}{2}$; pulse, 82; respiration, 21. This afternoon, after severe pain in the rectum, several injections and hard straining she passed, with the aid of her finger, an enormous mass of hardened feces, the largest I have ever seen, being at least two inches in diameter.

After recovering from the exhaustion of her fecal labor she has felt much better. From the excessive hardness of this mass, I think it must have been impacted in the distended colon for months, the thin feces having passed by the side of it.

November 28th, 11 a. m.—Temperature, 98; pulse, 80, respiration, 16. Took 10 min. Magendie's solution last night, and rested well and feels well this morning. 10 p. m.—Temperature,

98 $\frac{1}{2}$; pulse, 76; respiration, 19. Appetite and secretion good. Continue tonic. The patient continued to improve, the wound gradually closing by granulation.

The hernia was quite troublesome, and required a truss. At one time it came down and became strangulated, and was with some difficulty reduced by Dr. C. E. Davis, who was called in my absence.

In about four weeks after the operation she walked into another room, and has now been doing her work for several months, though it was five months before the wound was entirely healed.

The fibroids attached to the uterus can be distinctly felt through the vagina, and she was troubled with a bearing-down sensation until I used a Hodge pessary, which gives great relief.

ARTICLE III.

NATURAL SELECTION IN DISEASES. By H. D. VALIN, M.D.,
Chicago.

The conviction and common agreement of natural philosophers and eminent physicians are the evidences on which medical teachings are grounded; but neither law nor revelation should be considered as authorities in medicine.

Two entities are generally recognized in nature, viz., energy and inert matter; these two are called by some animated matter. The course of nature is the movement of inert matter when acted on by force; in other words, the regular progress of natural events. A natural cause, uniformly recurring, and producing similar results each time, on account of the accessory circumstances remaining the same, establishes a natural law; hence in the course of nature there are an indefinite number of such laws.

Natural selection, or the survival of the fittest, means that the organized being best qualified to escape, in a given medium, harmful circumstances, and destruction by the other species, survives in the struggle for life. But it does not mean that the survivor is the best in size, strength, beauty or virtue. This could be simplified by saying that a greater energy or force com-

ing in conflict with a weaker one destroys it; and rats and bed-bugs are instances of some of the fittest animals who survived and multiplied to the greatest extent.

It could not be otherwise in the present constitution of the universe, except through the interference of a superior being; but, for practical purposes in medicine, supernatural interference is generally overlooked in its bearings on life and death. Indeed, all statistics in civilized countries refer diseases to natural causes without exception.

The author of the "Origin of Species," with a majority of later writers on the subject, does not recognize any premeditated results in the events of the world, and claims that the cause being brought to act, the result cannot be a deliberate one, but is necessary.

Human selection is deliberate to a certain extent, and consists in breeding from the choicest domestic animals, and the comparative improvement thus gained, as our perfected breeds of race-horses, merino sheep, etc. But the human species is very little influenced by natural selection as regards their struggle for life with other animals, on account of the great superiority of man over the latter, yet the struggle for life between nations is very great, and a frequent cause of war. Man is less influenced by human selection, because human charity takes a special care of weak individuals, which procreate as the rest. Lysurgus in Lacedemonia is said to have applied this law, through sacrificing the life of many individuals, with a good result. But the present emperor of Germany is said to have failed in his endeavor at raising a regiment of tall men of the age of his son.

Natural selection can be applied in some degree to all organisms, and, consequently, to the bacteria which are supposed to represent each infectious disease. But the spread of these cannot improve mankind; those most exposed, not necessarily the weakest, are mostly attacked. The wider these organisms spread, the greater the destruction of life; and finally, a majority of those attacked recover, often retaining an impaired vitality.

Immunity from infectious organisms is seldom met with. The Algerian sheep, it is true, enjoy such an immunity from splenic fever; and among mankind, four or five individuals, in every

hundred, are said to resist the inoculation of small-pox, if they have not been vaccinated. An immunity from a second attack of some of those organisms, is well established, but has not been proven to be imparted to the progeny through inheritance.

A tendency to some diseases is transmitted by hereditary descent, because the progeny is modeled after the parents, and a lack of resistance to certain injurious causes will often be found in both, obviously. The conditions remaining the same, an increase in those diseases must take place; hence the well-known fact that two phthisical parents generally breed phthisical children; hence also the necessity for crossing, and the evil which sometimes results from the intermarriage of relatives. As an instance, a country settled by the descendants of various nations generally possesses a good breed, as the American people; and a secluded race declines, as the Negro or the Malay.

This recalls to one's mind that, although the course of nature is regular, it is far from being what mankind would have it. If man presided over the course of nature, it seems there would never have been a famine destroying so many millions of human beings as that of the Northern provinces of China in late years. Yet, it seems also that, without a relative evil, no good could exist.

Mankind being endowed with such wonderful qualities, take advantage of what good nature affords them, and have recourse to their genius and experience to guard against its evils. Hence architecture, garments, the culinary art, etc. Perhaps medicine could be referred to the same cause. We build houses to protect us from rain and snow, and fire enables us to live comfortably in cold climates. We also grind our corn before eating it, notwithstanding that we may contemplate the loss of our descendants' teeth in a remote futurity on that account.

In conclusion, breeding from weak or diseased individuals impairs the race. A frequent recurrence of epidemic diseases destroys the species. The improvement of mankind must be referred mostly to their morality, i. e., the accordance between the acts of a person and his notions of right. By this the individual has a tendency to progress, choosing the best of two given conditions. Hence the most intelligent and most righteous peo-

ples are the most advanced in civilization, and have the best chances to survive. But what are the chances that the American Indians will survive in their conflict with civilized nations?

An absolute protection against infectious diseases would greatly diminish the death rate of any country, and increase the average length of life. The immunity from a second or a third attack of some infectious diseases is a subject well worthy of the investigation of some able experimenter. It is also a useless truth that, destroying early all the weak and diseased individuals, would improve the race to a certain extent; but the existence of such individuals is often the cause of some good, being objects of charity, sympathy and generosity on the part of their more gifted relatives.

Finally, the best treatment of disease sometimes prolongs the latter, as preserving crippled individuals, and thereby augments the ratio of disease in some circumstances. But what evil is comparable to death for an intelligent being?

Many medical lecturers, pupils of the dogmatism of by-gone years, always see in the course of nature causes established in order to arrive at premeditated effects. If there is deliberation in the course of nature, sustaining such propositions, it would greatly benefit the modern physicians to get good proofs of it.

ARTICLE IV.

CARIES OF THE SUPERIOR MAXILLA. By TRUMAN W. BROPHY, M.D., D.D.S., Clinical Lecturer on Dental and Oral Surgery, in Central Free Dispensary, Rush Medical College, Chicago. Read before the West Chicago Medical Society.

On October 26th, 1879, I was called in consultation with the family physician of the patient whose case I now report.

A lady aged thirty-five, somewhat anæmic, had an abscess form about two years previously, in the canine fossa of the left superior maxilla. It was lanced by her physician at a point just below the orbit and to the right of the infra-orbital foramen. It discharged freely. The wound, however, refused to heal, and

there was constantly a discharge of sero-pus which excoriated the skin to an extent corresponding in size with a silver half-



dollar. Having treated the patient several months without improvement, her physician directed her to a surgeon, under whose treatment she remained about a year. This treatment consisted of introducing a seton into the fistula, passing it downwards, and carrying it through the mucous membrane, at a point where it folds upon itself (the gingivo-labial groove). Besides this, injections of solutions of carbolic acid were made. This treatment was kept up faithfully during the period above mentioned, without abating the disease in the least.

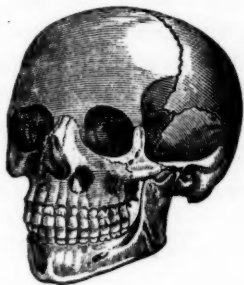
Indeed, the patient was gradually becoming weaker and despondent. Losing faith in her medical attendant, she drifted, as patients frequently do, from one practitioner to another, until she had employed several. The disease had been pronounced cancer by some physicians, who prognosticated death within two years. When she came under the care of the gentleman with whom I saw her, she was declining very fast. Under his treatment, however, her health improved. There existed in her case a general catarrhal condition.

The patient had, during the progress of the disease, been under the care of a practitioner of dentistry, who had skilfully filled the six anterior superior teeth, which were carious on the labial

surfaces about the margins of the gums. The teeth were not carious to that extent, however, which would expose their pulps, or necessarily endanger their vitality. Neither was there any discoloration or other objective symptoms of devitalized pulps. The condition of the case was such as most frequently results from alveolar abscess, which cannot occur without the death of the tooth pulp. Examining the face carefully, I found that a probe passed into the fistula, came in contact with denuded bone. This covered a space about one inch and one quarter in diameter. Believing that the initial lesion could be traced to the teeth, and not having any instruments with me with which to test their vitality, I improvised the following method, which served the purpose admirably. With a small round file heated, I ascertained by applying it to the gold fillings (had there been no fillings, I would have applied it to the teeth), that the left canine tooth was, unlike the others, devoid of sensation: and it was at the apex of the fang of this tooth where caries of the bone was found. This enabled me to make a diagnosis of the case.

The patient accompanied me to my office, where I verified my diagnosis by drilling through the palatal surface of the non-sensitive canine tooth, when I found, as I had anticipated, the pulp canal filled with sero-pus, and by introducing the point of a syringe into the cavity in the tooth, liquid was forced through the pulp canal into the abscess and out of the fistulous opening upon the cheek. Having thus demonstrated that the diagnosis was correct, I decided at once upon the course to pursue in effecting a cure. With a bistoury, I made an incision through the mucous membrane, down upon the apex of the affected tooth, and into the cavity formed by the destruction of the bone. After controlling the hæmorrhage, by the use of a nasal speculum a clear view of the abnormal parts was secured. The alveolar process had become carious, to that extent, which exposed about one-third of the upper portion of the root of the canine tooth above mentioned. With an engine drill, I cut away the exposed portion of the root, and the carious bone surrounding it, then filled the canal with gutta percha, and smoothed it off carefully at the apex. This done, the cavity and wound were filled with boracic acid crystals. This treatment, together with general

tonics, was continued, keeping up free drainage, until the cavity left by the destruction of the bone was completely filled with granulations, when the wound was permitted to heal. The fistula upon the cheek healed as soon as drainage was secured from the



lowest portion of the sac. The practice, so frequently resorted to, I regret to say, of lancing alveolar abscesses externally, cannot be too vigorously condemned. Unsightly scars are thus made, all of which might be avoided by opening these abscesses within the mouth.

Three months after the operation I filled permanently, with gold, the cavity made to reach the pulp canal, which completed my services to the patient. This case was of traumatic origin. Prior to the development of the disease, the patient had received a blow, cutting the lip quite severely, on the affected side, and it was due to this accident, which severed the vessels and nerves of the pulp of the canine tooth, that its vitality was destroyed.

After the pulp became devoid of vitality, suppuration and generation of gases followed in close succession, when the pus was forced through the apical foramen, with the result above given.

The question would naturally be asked, what do you expect of a tooth after the loss of its pulp? Is it not then a foreign substance, and therefore incompatible with the economy? My answer would be, No. Certain tissues of the tooth, the enamel and dentine, have lost their source of nourishment. The cementum, however, which forms the external portion of the root, closely resembles true bone, like which it contains lacunæ and

canaliculi; and is nourished by the vessels of the periosteum. Therefore, we have an organ not wholly devoid of vitality, and when properly treated, will serve for many years the purpose for which it was intended.

I have no doubt that a very large percentage of the cases of caries and necrosis of the maxillary bones, as well as trigeminal neuralgias, with all their complications, emanate from lesions of the dental organs. And it is not too much to say that if, instead of resorting to their indiscriminate removal, they were treated upon scientific principles, as other diseases are, the requirements of humanity would be far more effectually subserved.

ARTICLE V.

ABSTRACT FROM AN ADDRESS DELIVERED BEFORE THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE, at their annual banquet, in the Grand Pacific Hotel, Chicago, Feb. 25, 1880. By PROF. DELASKIE MILLER, Acting President of the College.

"Know thou thyself" is an admonition which has passed currently among men for many generations, and it may be accepted as genuine coin to-day, for self-knowledge is undoubtedly invaluable. But how may a man know himself? This query involves a problem not easily solved by many.

A short time since I was accosted by a gentleman who introduced himself by a name with which I had long been familiar, even from early boyhood. I had not seen him for many years. I said to him: "I should know you. I recall many incidents connected with your personal history, but the change in your external appearance is so great that I could not identify you. When you think of it, the change must seem as great to you as it appears to me. You are now justly regarded as a statesman. You are the chief executive of your State. How do *you* know that you are the same person with whom I attended the primary school and played at games in early life? There is not one particle of matter in your system now that composed your body then." His answer was philosophical and satisfactory. He

replied, "By *memory* and my *consciousness* I have proof of my identity."

It is not difficult to perceive the parallel in the history of the individual and the development and growth of a great institution. Who that has seen Rush Medical College to-day could realize that *it is* the same institution that originated on Clark street? Then, a few plain seats in a rear room of an inferior building accommodated the students in attendance upon the lectures—now, nearly five hundred seats are occupied in a building which would be an ornament to any city. Then, two Professors gave the entire course of lectures—now, more than thirty enthusiastic physicians are engaged in teaching the classes. Then, sixteen weeks of each year was considered ample time in which to qualify young men for the responsibilities of medical practice—now, systematic instruction is given during thirty-seven weeks of each college year. Then, *clinics* constituted no part of the curriculum—now, students are *required* to attend the clinics which are given daily throughout the term. Then, practical chemistry was not thought of as an exercise for the student—now, practical work in the laboratory is considered important, and many students become proficient there.

In another respect I can trace the analogy in the history of the individual and the college. As in man the elements are constantly changing, so is it with the institution. Herrick was laid to rest in an Eastern city. Brainard ceased from his labors in the midst of a prosperous course. Blaney was called home after he had attained the highest honors of the institution; and Freer, of blessed memory, has ascended to his reward. Thus there is not one left who assisted in the organization and early history of the college. But no—I must qualify that statement—not one of the early faculty remains. There is one honored name still with us—the name of a gentleman who took an active part in the organization of the college, and who has ever felt and manifested a lively interest in its prosperity—who has faithfully discharged the duties of secretary of the board of trustees from the first meeting even until now, and whose name is attached to the diploma of each alumnus of the college from its

organization. As Judge Goodrich is unable to be present this evening, I give the alumni present his cordial greeting.

Gentlemen, we hear much said during these latter years upon the subject of medical education. And much that we hear is anything but commendatory of the system now in vogue. There are in our ranks some who may be styled pessimists—who believe the present time just about as bad as it well could be—who think the medical teaching of to-day anything but thorough—who feel that the profession has deteriorated by the admission of young men, since they graduated. Now, I do not sympathize with these sentiments in any degree. I believe in optimism. I believe the present time better than any former time. The medical profession holds a more honored position to-day than ever before. It exercises a greater influence for good. It is consulted with more confidence on important questions involving the highest interests of society than in any past time.

Am I warranted in assuming that Rush Medical College has contributed a share to this advancement—this elevation of the profession? That she has done some faithful work during these thirty-six years of her active existence? Who fill many of the important chairs in the medical colleges in this city and in different sections of this country? Graduates of Rush Medical College. Who is at the head of the Marine Hospital Service of the United States? A graduate of Rush Medical College. But I would weary you were I to call the roll of honor. I claim that the past history of the college must be accepted as prophetic of her future increasing influence and usefulness.

It will not be expected that I should enumerate the improvements which have been inaugurated by Rush Medical College. I may, however, refer to the mode adopted for filling vacancies in the Faculty by *concours*—a mode which has proved highly satisfactory; a mode which has attracted some of the best talent in the land; a mode which holds out inducements in the future to the graduates of this, the *best* class, and of which they will undoubtedly eagerly avail themselves.

During all the changes—internal and external—which have marked the career of the college, her progress has been onward and upward. Though her Faculty, some of them giants in

intellect, may by the inscrutable providence of God, be removed from the sphere of their usefulness here—though the material fabric may be dissipated in thin air and disappear in smoke—still the college survives, for she is animated by a living soul—she is stimulated by the same spirit now as heretofore. She is not averse to improvement—she is not traveling in a rut. She is constantly augmenting the means and facilities for greater thoroughness in teaching—she is constantly exacting higher attainments of her graduates. She is determined to keep abreast with the most advanced in every real improvement.

As long as the right material for our classes is furnished by the profession of the country, so long will “old Rush” continue to add to the profession physicians who will take rank with the representative men who are present to-night.

A REMEDY FOR THE SICK-STOMACH OF PREGNANCY.—
Doctor Forwood, at a late meeting of the Lancaster, Pa., Medical Society, read an interesting paper on the “Treatment of the Sick-Stomach of Pregnancy.” His favorite prescription is as follows :

℞ Rad. columbo.....
Rad. zingiber, āā..... ʒss.
Fol. sennæ..... ʒj.
Aquæ bullient Oj.
Mix. Infus.....

Sig. Take a wineglassful before each meal.

Dr. Forwood says: “For a time we used these medicines in a powdered state, but finally abandoned it in that form because of the ‘mushy’ character of the infusion, which was disagreeable to the patient and difficult to filter with ordinary appliances.”

Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

ARTICLE VI.

Cleft of the Hard and Soft Palate Closed by Operation with Production of Bone in the Palatine Vault.

C. L. presented himself at my office, Feb. 8, 1876, aged twenty-two, robust and of good constitution, to be treated for an increasing deafness which had troubled him for three years.

On examination, I found a cleft of the hard and soft palate with considerable angina which I attributed to the fissure, and advised an operation to close it in the hope of improving his hearing as well as speech. The latter was so imperfect and nasal that even his own relatives could understand but little of what he said. The cleft was complete, extending forward to the incisor teeth, and was of the unilateral form. It was also complicated by hare-lip, which was operated upon when he was two months old with good success, a statement being then made to the effect that nothing could be done for the fissure. The cleft was very wide behind, and tapered to almost a point in front. The operation I performed March 15, 1876, assisted by Dr. W. M. Blair. The patient was seated in an adjustable chair in front of a good light, and *no* anæsthetic was used.

Whitehead's gag was employed to keep the mouth open and the tongue out of the way. The palato-pharyngeal muscles were seized low down and divided with a pair of long curved scissors. Then the levator palati muscles of each side were thoroughly divided, also the muco-periosteal membrane lining the lower part of the internal pterygoid plates with Whitehead's knives. After

this the side incisions were made through the muco-periosteal tissue of the gums to the bone. These incisions extended from a little back of the last molar to the incisors on each side. The next step was to divide the muco-periosteal tissue along the edge of the cleft of the hard palate to the bone, as well as the palatal muscles along the posterior border of the palate bone, which was done with Whitehead's hoe. After this, I detached the periosteal tissue from the palatal process of the superior maxillary on each side, avoiding the anterior palatine foramen and posteriorly, where the superior palatine artery emerges, with a periosteotome. The paring of the edges of the cleft was done with a long straight-edged knife, holding the flaps with the long curved forceps used for seizing the palato-pharyngeal muscles.

Six silver wire sutures were then passed, three farthest back with Whitehead's medium-sized staphyloraphy needle, three in front with small needles in ordinary needle forceps. After all were passed, I commenced in front and carefully adjusted them. Then the lateral cuts were thoroughly stuffed with lint, which was removed and freshly applied every day after thorough cleansing of both wound and mouth with a weak solution of carbolic acid. He was kept on soups and liquid food for ten days, at which time the union was found complete in its entire extent, except a small aperture about the size of a silver probe at the anterior part of the cleft. The sutures were all removed on the eleventh day, as was also the lint in the side cuts. The opening that remained kindly healed after making three applications of solid nitrate of silver to it, about one week apart. The new palate was sufficiently long and lax to perform well its functions. Returning to my office within two months from the time of operation, the speech was found to be very much improved; in fact, the patient could talk quite plainly. There was also very decided improvement in hearing, so that he could conduct ordinary conversation very well. He was last seen Aug. 1, 1876. Then the situation of the cleft was entirely healed, and, testing with needles, I found the site of the cleft of the hard palate gave the sensation of bone, and the soft palate and uvula were almost of normal appearance.

The especial points in the case were the thorough relaxation of the soft palate and the dissection of the flaps, so that there was sufficient relaxation. With these precautions there will be no tension after union, upon which depends the improvement of speech.

A. E. SMITH, M.D.

DARLINGTON, Wis., Nov. 10, 1880.

OXALATE OF CERIUM IN THE TREATMENT OF CHOLERA INFANTUM.—A country practitioner writes to the *Concours Médicale* on the treatment of infantile cholera by oxalate of cerium. He says: "Profiting by a slight epidemic of diarrhœa among children and adults, I administered oxalate of cerium regularly, in doses indicated by my *confrère*, Dr. Poulet, viz., four grains divided into ten powders for children under two years, one to be given every hour; eight grains in ten powders between two and ten years; and fifteen grains similarly divided for adults. Without any exception, I have obtained rapid and absolute cessation of the vomiting, and in four cases, complete cure of the diarrhœa. In a child of a month old, already much attenuated by the disease, I renewed, during three days successively, the dose of four grains in ten powders; each time I obtained the cessation of the vomiting, which returned when the medicine was discontinued. Unfortunately, it was impossible for me to arrest the diarrhœa, and the child succumbed; but I am convinced that if I had been called in earlier I could have saved it. I cannot impress too strongly the importance of the cessation of the vomiting, as it permits the employment of the administration of the remedies usual in these cases. I tried to give the oxalate of cerium in a mixture, but I had to abandon it in favor of the powders. In a word, the employment of oxalate of cerium seems to me indicated in infantile cholera, and the cholera nostras of adults at the vomiting period. Its action upon the stomach is incontestable; and if that which it exercises on the intestine is more doubtful, it permits, at least, the recourse to other medicines the administration of which would have been otherwise impossible."—*Med. and Surg. Reporter.*

Domestic Correspondence.

ARTICLE VII.

NEW YORK LETTER.

Editors of CHICAGO MEDICAL JOURNAL AND EXAMINER :

The Cartwright lectures are now being delivered by Professor Roberts Bartholow, of Philadelphia, and the course is deservedly attracting much interest. The subject chosen is the Physiological Antagonism between Medicines; and between Remedies and Diseases. This subject, which has already been worked up, to some extent, by Rutherford, Fothergill and others, will receive much further enlightenment from Bartholow, if one can judge from the lectures already delivered. The first one was devoted to a discussion of the antagonism between opium and belladonna, a point concerning which the lecturer has already written a good deal. The hall was densely crowded and the speaker listened to with great attention. Dr. Bartholow is not an orator at all, but he talks plainly and makes no attempt at rhetoric or elocution. The lecturer is one of the apostles in this country of physiological therapeutics, and he has done more, perhaps, than any one, except Wood, to popularize, so to speak, the scientific method of applying remedies. He lays himself open to the charge of being too ready a generalizer, and too positive in his therapeutical beliefs to satisfy the critical. But such charges, though they weigh against a person on some accounts, are very easily condoned in a teacher of medical students, for whom a good deal of dogmatism is needed.

Therapeutics in this city, by the way, seems to be in a very chaotic condition, if we may judge by what is taught in the medical colleges. In one of these the professor teaches, with

great eloquence and earnestness, that all medicines are divided into disease-remedies and symptom-remedies, the former being foreordained from all eternity for the treatment of chronic disease, and the latter for acute. All the students go out from the institution with these and other curious therapeutical ideas packed away in their brains. For the professor creates great enthusiasm among his pupils, as, indeed, he deserves, since, in spite of his idiosyncracies, he is an able man and a magnetic speaker.

In another college, the professor of therapeutics has practically given up entirely the idea of classifying medicines. He simply divides them into mineral and vegetable bodies and then makes subdivisions of the former on a chemical basis. While the first professor referred to is transcendental, and is, in a measure, a teacher of specifics, professor number two is materialistic and a pessimist. In the former's lectures one gets a spirit of hopefulness and leaves with a vague impression that there is a remedy for everything; in the latter's lectures one catches, in undertone, the idea that nobody knows very much about therapeutics anyway. No doubt he is the nearer right.

It is not often that elegant buildings and hospitals are erected for the benefit of medical or surgical specialties. It is only in large cities that the conditions are met which call for or allow such structures. Even in New York, almost all the costly hospitals are general in character. Up to a comparatively recent time this was entirely the case, but of late there seems to be developing a demand for elegant special hospitals. The Orthopædic Hospital is quite a fine building, and is, I believe, the first one of its class in the city. Not long ago the second building of the Woman's Hospital was finished. But the crowning structure of all seems likely to be the Manhattan Eye and Ear Hospital, whose erection is now going on. It is a brick building, with brown-stone basement and trimmings, and is to be five stories high. It will cost nearly a hundred thousand dollars, of which, at last accounts, not a very large part had been raised. The hospital has one particularly good feature in its management, and that is, the union of medical with lay authority on its governing board. That this accounts in part for its prosperity, there can be no doubt. It is a curious fact regarding the three special

hospitals which I have just mentioned that they are all grouped near the Grand Central depot, and are consequently in the noisiest and worst part of the city. Close by the Woman's Hospital there is a constant rattle of trains, jangling of bells and screaming of whistles. It might be interesting to try and estimate the therapeutical effect of multitudinous noises upon morbid conditions of the uterus.

The medical activity of New York, as evinced in its various societies, is now at its highest pitch. There are in the city more than a dozen different organizations which are devoted to the advancement of the interests of medical science. The largest one is the County Medical Society, which has the peculiar responsibility of looking after our morals and manners. It is the society with which every regular physician is expected to affiliate. Its membership, however, is probably not over 700, while the total number of medical men registered in the county, under the new law, is nearly 2,500. As there are only between one and two hundred homœopaths in the city, it follows that we have a great many persons here who are either irregular or will not affiliate. Still the society is a powerful and active one.

The New York Academy of Medicine now has the greatest prestige among our medical organizations, for the character of its work and of its members—as well as for the balance which lies in its treasury. It owns an elegant building, a large library, and takes all the medical journals; and it generously throws open its doors to the whole profession, whether members or not. It is constantly increasing in wealth and membership, and it deserves, by the liberal spirit that is displayed, the reputation which it is gaining.

In the New York Pathological Society there are many persons whose medical and scientific attainments are unsurpassed. This is especially the case as regards the younger part of its members.

The society, as a rule, does most excellent work at meetings. Occasionally this is not the case, however, as happened not long ago. A medical gentleman, from Baltimore, I forget his name, was invited to show to the society the results of his recent investigations into the nature of syphilis. The gentleman in question appeared, and having hedged himself in with an imposing array

of microscopes, announced that he had found some peculiar rod-shaped organisms, which were, he believed, the specific germs of syphilis. He believed this, because he had always found these spores in chancres, and also in the indurated glands that accompany or follow the initial lesion of syphilis. The spores were rod-shaped bodies, grouped in a peculiar manner among the cells.

His statements were not received with much favor, as appeared from the ensuing discussion, and it seemed probable to some that the "spores" were nothing but crystals of alum, a substance used in the preparation of the sections. *Quid non sacra fames* of finding a specific germ, compel mortal hearts to do! This interesting exposition was followed by the display of a small fish-bone, with a history of the case and "remarks," the said bone having been extracted with much skill from the upper part of the œsophagus. Then came a discussion over the bone; and then the presentation of a kidney of a man who had suffered from that rare and obscure disease known as chronic diffuse nephritis. But this does not by any means represent what the Pathological Society can do, or generally does.

The Neurological Society has some very active and wide-awake members, and its meetings are almost always made interesting by lively discussions. For some time past it has turned its energies upon psychiatry and the insane asylums. This has resulted in much notoriety for the asylums and a good deal of newspaper prominence for the society. The prospects of asylum reform are, I may say now, considerably brighter than they have been. A committee appointed by the legislature last winter is investigating the State institutions for the insane, and there is promise that it will do its work thoroughly. The system of caring for our State insane undoubtedly needs an overhauling and readjustment, though whether anything very radical can be done under the present political methods, is doubtful.

To return to the societies—New York's wealthiest and most "aristocratic" medical organization is probably the Obstetrical Society, which includes the gynæcologists. This is partly social in its objects, and, after discussing trachelorrhaphy, etc., it then, as is rumored, addresses itself to champagne and oysters with

much earnestness. Trachelorrhaphy is indeed a dry subject, compared with champagne.

The Clinical Society, composed for the most part of young men, and very clever ones, is an organization that does some very good work. A paper was read before it a while ago by Dr. F. H. Bosworth on the subject of the effect of tobacco smoking upon the throat. It was the opinion of the reader—an opinion confirmed in the subsequent discussion—that smoking did not affect the throat at all, as a rule, and that genuine smoker's sore-throat is rather a myth. Some exception was made to the innocuousness of cigarettes; and it was, of course, admitted that hard smoking might aggravate a chronic catarrh brought on by other causes.

There is, after all, but a small proportion of the profession that attends with any regularity the meetings of the societies. And there is a very good reason for this. Although occasionally there are excellent papers and discussions, this is not the rule, and whether the paper is good or not there is a large amount of talk that is simply inane following it. Societies are haunted by a few persons for whom age or accident secure respectful hearing, and who insist on using their privileges of the floor, whether they have anything to say or not. Now it is not profitable to listen to discussions upon the value of whale-oil in pleurisies, for instance. Nor can one be aroused to enthusiasm by a two-hour oration on the habits of the tape-worm. Society meetings illustrate the curious physiological fact that when any accident, prenatal or otherwise, arrests the development of the cerebral mass, the posterior part of the third left frontal convolution generally remains intact, or may even be the seat of an extra molecular activity. There are a certain number of persons, generally, but not always in the decline of life, who will get up and talk, whatever may be the subject, and one could easily experience the idea of eternity by listening to them, we will say for a day. Sometimes it is amusing to note the contact between the old school of medical thought and the new, with its display of scientific refinements. A venerable physician of wide reputation, but of somewhat empirical habit of mind, was nearly paralyzed, the other

evening, by a bright young neurologist who asked him "if there was not a condition of cerebro-spinal depression in his patient, which contra-indicated the use of opium."

On the whole, a person is hardly to be blamed for staying away from most society meetings, since he runs an excellent chance of being bored, and since what is best in the proceedings can be found later in the medical journals. This is, of course, only one way to look at the matter. From a higher stand-point it might be considered a duty to go and do some work to make the meetings better. Furthermore, there is no doubt that if a New York medical society sets out to have a good meeting, as occasionally happens, there can be nothing more instructive.

Some attempts have been made of late to stir up the subject of veterinary, or comparative, medicine. It is said that there is a great need of educated veterinarians, and that whoever has the courage to encounter the obloquy of being called a "horse-doctor," is sure to earn a handsome income, while, if he has true inclination, he can win a scientific reputation at the same time. The veterinarians of this city easily gain an income of \$2,000, and from that upwards. There is a great deal still to be worked up in the diseases of the lower animals. The above are the statements made by Dr. Bates, the Dean of the Columbia Veterinary College of this city. The recent prevalence of pleuropneumonia, the discussions upon trichiniasis, bovine tuberculosis, chicken-cholera, anthrax and splenic fever have tended to give a new prominence to the value of comparative medicine, and it is a prominence which is unquestionably deserved.

Our night medical service continues to receive encomiums from various quarters. There were, I believe, about thirty-two calls during October. The Academy of Medicine has passed a vote of thanks to its originator, and thus reaffirmed its indorsement of the project. It does work very nicely—in a way. One of these ways is as follows: when a poor patient calls up a member of the service in the night, he tells him to go to the police-station and ask the officer there to send for him. The doctor thus insures his three dollars. It is quite possible for some permanent arrangement between physician and patient to be made in this way. Thus the system is liable to great abuse, though it would

be unfair to say that it has not been properly carried on up to the present time. I noticed that in Paris the expense of the service has of late increased so rapidly that some investigation has had to be made.

We have the divine Bernhardt with us just now. Her acting excites the greatest interest among all; but her attenuation seems to have especially attracted the observation of medical men. Among these, she is reported to be so very thin that whenever she takes a pill, she looks as though she were pregnant!

NEW YORK CITY, Nov. 16, 1880.

A DANGEROUS TOY.—At the last séance of the Société d'Hygiène, Dr. Gorecki exhibited one of the little toys resembling a swallow, constructed by supporting a small helix of zinc on a handle provided with an apparatus for giving it a rotary motion like a top. In appearance nothing could be more inoffensive than this simple toy, but in reality it is quite dangerous, especially if the child who plays with it, sets it in motion while the apparatus is held over the head.

One month before, a child eight years old was brought to his eye clinic, who, in spite of the protests of his schoolmasters, had not only played with the toy, but instead of holding it at a distance from his body with the arms extended when it was set in motion, had persisted in holding it directly above his face, in order to secure more force in propelling it. When the zinc helix flew off, it divided the eye in a horizontal line as completely and as cleanly as if the incision had been made for a cataract operation. The aqueous humor, iris, crystalline lens and vitreous body all escaped from the wound, while the retina, released from its position by a severe hæmorrhage, stuck to the posterior face of the cornea. The eye was completely lost. A similar accident is said to have resulted from the impulse given to a playing-card in what is known as "prestidigitation."—*Le Praticien*.

Society Reports.

ARTICLE VIII.

At a meeting of the Aurora Medical Society, held at Aurora, Ill., November 8th, a specimen was presented and the following history given by Dr. M. M. Robbins.

Was called about four o'clock p. m., October 22, 1880, to see J. B. W., a machinist, aged 57, who had been wounded by a pistol ball. Found him laboring under severe shock. Under the use of stimulants, he rallied, reaction on the following day being excessive.

On examination, assisted by Dr. E. B. Howell, the ball was found to have entered the left arm at a point about five inches below the shoulder joint, emerging about two inches below the axillary fold, passing anterior to the bone and not injuring it. It then struck the chest over the fifth rib, passed inwards and slightly downwards to the fourth costal interspace, and a little inside a line drawn perpendicularly from the left nipple. Beyond this point the probe would not pass. He improved quite rapidly. He had no pain, except from a bronchitis, which he had contracted previous to the injury. There were no symptoms indicating that the ball had injured any vital organ.

On the eighth day after injury, he was dressed. On the ninth day he was out of doors. On the tenth he walked about still more. On the eleventh he walked about home a short time in the morning. About ten o'clock he took a short ride in an easy carriage; returned home; said that he felt better than at any time since the injury. During the afternoon he walked about or rested upon the sofa, as he felt inclined; ate a light supper about 6:30 p. m.; chatted for awhile after eating. Said frequently that except being a little weak, he felt better than at any time

since his injury. He walked from the table to one corner of the room, sat down, and immediately complained of a severe pain and pressure in his chest, in the cardiac region. He walked to another part of the room, and in a few minutes died. It was estimated by different members of his family that he lived from three to eight minutes after the serious symptoms began—probably not more than the shorter time. He had lived eleven days, three and one-half hours after the injury.

Post mortem fourteen hours after death. Present Drs. Higgins and E. B. Howell.

On opening the chest, a considerable quantity of blood was found in the left pleural cavity, and the pericardium was filled with blood. About one-half of that in the pericardium was in the form of a recent clot. No old clot could be found. The ball had struck the upper border of the fifth rib, at the point to which we had traced it at the time of injury, described nearly a right angle with its previous course, perforated the pericardium, struck the left ventricle upon its anterior surface about two-fifths of the distance from the base to the apex, passed into and through that cavity nearly horizontally, and lodged in its posterior wall, through which it nearly passed at the time of injury. At this point there was a stellate rupture. This was at the apex of a slight elevation upon the surface, the walls of which were very thin. It is possible that these walls had been thinned by being worn by the roughened surface of the ball after its lodgment there.

There were old adhesions of the pleural surfaces at the left of the heart, which accounted for the pain in that region which attended his cough. One of the aortic valves was ossified. This was the only lesion referable to the heart discovered before death, although careful examination was made for any symptom which would indicate that the heart had been injured. The ball was of 32 caliber. I am told that he ran about fifty feet after receiving the wound before he became unconscious.

The wounds in the arm, chest and anterior wall of the ventricle were entirely healed. One of the pillars of the columnæ carneæ was located immediately over the point where the ball entered the ventricular cavity, and may possibly have prevented or helped to prevent the flow of blood through the wound.

Reviews and Book Notices.

ARTICLE IX.—A HANDBOOK OF PHYSICAL DIAGNOSIS, COMPRISING THE THROAT, THORAX AND ABDOMEN. By Dr. Paul Guttman, Privat Docent, University of Berlin. Translated from the third German edition.

In this valuable work, the condensed result of a long clinical experience in the University of Berlin, the author presents the various methods of clinical examination of the thoracic and abdominal viscera, in health and disease. As far as the nature of each subject permits, he observes uniform order in its arrangement as to details, taking up first the signs obtained by each method of exploration, then their causes, and the physiological and pathological conditions in which they occur. This work forms a compact volume of 344 pages, including an appendix on laryngoscopy. It has been much noticed abroad, has passed through a half-dozen translations in different languages. Wood's Library Standard Medical Authors, 1880. D.

ARTICLE X.—NAVAL HYGIENE: HUMAN HEALTH AND THE MEANS OF PREVENTING DISEASE. With illustrative incidents, principally derived from naval experience. By Joseph Wilson, M.D., Medical Director U. S. Navy. Second edition, with colored lithographs. Philadelphia: Lindsay & Blakiston; 1879.

As time goes on, the subject of hygiene is gradually coming to the front and taking the place in medical education to which it is entitled. The National Board of Health, the various State Boards of Health, and, under their supervision, numerous village and city organizations of a like character, are all working toward

the same end. "*How to prevent*" is quite as important as "*How to cure.*" Among the excellent treatises upon hygiene, this book of Dr. Wilson's takes a high place. The fairness of statement which characterizes the author's writings, as well as the practical information conveyed by them, help to make this volume a valuable book of reference to the physician. While it is especially devoted to the consideration of the "*Hygiene of Ships,*" and to the discussion of the best means of preventing disease among sailors and seafaring men, it is yet of value to the general reader.

Chap. XXIII, which considers the important subject of "*Yellow Fever,*" is quite too short, and condensed to a space which is not commensurate with the importance of this terrible scourge to (at least) American seamen. A more extended article, giving additional information upon the hygiene of this disease, would make the book much more valuable. Taken as a whole, the work is an excellent one, and ought to be read by every physician.

B. W. G.

ARTICLE XI.—PHYSICIANS' COMBINED CALL BOOK AND TABLET, AND PHYSICIANS' HANDY LEDGER. Published by Ralph Walsh, M.D., Washington City, D. C. Price, \$3.00 and \$1.50.

We have been using these two books in our professional work for some time past, and find them the most convenient in size, shape and system we have ever used. By them any physician, no matter how extensive his practice, can by a few minutes' attention keep a detailed account of his services. The ledger well deserves its title "*handy,*" for the simplicity and accuracy of its method is very marked.

B.

ARTICLE XII.—LESSONS IN GYNÆCOLOGY. By Wm. Goodall, A.M., M.D., Professor of Clinical Gynæcology in the University of Pennsylvania. Second edition.

Many of these lectures are well known to the profession through their appearance, from time to time, in various medical journals throughout the country; and their collection into this interesting volume has been no doubt duly appreciated. The

reader will hardly tire of the book before the last page is finished. Admirably clear in style and eminently practical, theory has little space, but energetic, painstaking work fills each hour. The reader sits in the amphitheatre, the patient is brought in, and the entertainment proceeds.

Chapters XXX, "On Nerve Tire and Womb Ills," and XXXI, "On Special and General Hints for the Prevention of Uterine Disorders," are practical hygienic sermons from life.

We commend the work to the profession especially, as adapted to the thorough commitment to memory by the younger practitioners.

D.

ARTICLE XIII.—A NOTE ON THE ALKALOIDS OF CINCHONA.

By BENJ. LEE, M.D., PH. D., etc. Read before the Medical Society of the State of Pennsylvania in May, 1880.

This is a short paper, the chief object of which appears to be the showing of how many active principles the cinchona bark contains, and to advertise the combination of several of these in the form known as Quinquina. The writer enumerates eighteen primary and seven secondary distinct active principles as having been obtained from the bark. They are named as follows:

NATURAL ALKALOIDS.

<i>Crystallizable.</i>	<i>Amorphous.</i>
Quinia.	Dihomocinchonia.
Quinidia.	Paytamia.
Cinchonia.	Cusconidia.
Cinchonidia.	Dicinchonia.
Quinamia.	Diquinidia.
Quinidamia.	Paricia.
Homocinchonia.	A liquid alkaloid unmamed.
Homocinchonidia.	
Paytia. Cusconia.	
Aricia. Jauania.	

Artificial or Secondary Alkaloids.

Produced from the crystalline alkaloids by overheating or by certain chemical reactions.

Quinicia.	Quinamicia.
Cinchonicia.	Homocinchonicia.
Quinamidia.	Apoquinamia.
	Protoquinamicia.

Selections.

ON PERITYPHLITIS. By HENRY B. SANDS, M.D., Professor of the Practice of Surgery in the College of Physicians and Surgeons, New York; Attending Surgeon to the New York and Roosevelt Hospitals.

Since the year 1867, when Dr. Willard Parker happily advocated and adopted the plan of treating perityphlitic abscesses by early incision, the procedure has received considerable attention from American surgeons, and the practice recommended by Dr. Parker has been fully indorsed by all who have published the results of their experience. That the disease, however, although by no means uncommon, is frequently overlooked or misunderstood, seems quite certain; and what is known about it has not yet been embodied in the standard surgical text-books, but remains scattered among the pages of our current medical literature. Further discussion of the subject is therefore desirable, in order that the disease may be readily recognized and submitted to appropriate surgical treatment; and in order that those cases in which operative interference is necessary may be, if possible, distinguished from others, not infrequent, which tend to spontaneous recovery, or which, at least, are likely to terminate favorably without the aid of the knife. My object in the present communication is briefly to present to the Society the results of my own observation of this affection, in the hope of eliciting profitable discussion, and of obtaining such additional information derived from the personal experience of my colleagues as shall throw light upon several obscure and unsettled points connected with its pathology and treatment. My remarks will refer only to those cases of inflammation in the neighborhood of the cæcum,

in which the disease is circumscribed ; as those in which general peritonitis rapidly follows a perforation of the cæcum or the vermiform appendix, belong to a separate category, and terminating fatally, are as yet beyond the reach of art, and possess therefore a pathological rather than a surgical interest.

Thus defined, twenty-six cases of perityphlitis have fallen under my notice. Of these, twenty-two were observed in males and four in females, thus confirming the fact already established concerning the comparative rarity of this disease in the female sex. Of the entire number, only one occurred in hospital practice. The youngest patient was nine years of age, and the oldest fifty-four. Of the rest, ten were between ten and twenty, seven between twenty and thirty, two between thirty and forty, and five between forty and fifty.

As is well known, various causes have been assigned by systematic writers for the occurrence of the inflammatory affection under consideration, and a pathological classification of the cases I have seen would doubtless be preferable to any other, provided it could be accurately made. But as in all, except three of them, the disease terminated in recovery, the precise pathological condition could rarely be determined ; and therefore I have thought it more profitable to separate the cases into four divisions, as follows :

1. Cases terminating in resolution, without evidence of suppuration.
2. Cases of abscess, terminating in spontaneous recovery.
3. Cases of abscess, treated by operation.
4. Cases of abscess, unopened, and ending fatally.

The first group comprises ten cases, in all of which the disease disappeared without showing any signs of suppuration. Inasmuch as many persons entertain the erroneous notion that perityphlitis, when once established, must necessarily terminate in the formation of abscess, it will be important to dwell on these cases long enough to show that their diagnosis was carefully and fairly made out. In all, the following symptoms were present, namely : abdominal pain and tenderness, usually occurring suddenly, sometimes limited to and always most marked in the region of the cæcum ; fever, indicated by an acceleration of pulse and a

rise of temperature; and the presence of an indurated swelling, distinguishable either by palpation in the right iliac fossa or by digital exploration of the rectum. In most of the cases, the onset of the disease was severe, being characterized by nausea and vomiting, and by acute pain and tenderness in the cæcal region. Sometimes the pain in the abdomen was diffused in the beginning, and became localized only on the second or third day. The temperature was elevated in every case, ranging from 100° to 104° F., in one case reaching 105° . The most striking feature of the disease, namely, the presence of a circumscribed induration in the right iliac fossa, was observed in nine out of the ten cases belonging to this group; while, in the remaining case, the inflammatory swelling could be distinctly felt through the rectum, the finger detecting a firm elastic mass, tender to the touch, and evidently developed from the region of the caput coli. When present in the iliac fossa, the tumor seemed deep-seated, and was invariably situated above and within a short distance of Poupart's ligament. Its external margin often advanced to a point within an inch of the anterior spinous process of the ilium, while, internally, it seldom reached the median line, in one instance, however, passing two inches beyond it. Its upper limit rarely extended above the cæcum or adjacent part of the ascending colon. In all instances the tumor was deep-seated, immovable, and tender on pressure; and in several the abdominal wall covering the tumor anteriorly was so exceedingly painful to the touch as to render a thorough examination quite difficult. The induration was usually discovered within forty-eight hours after the commencement of the disease, and generally began to subside soon after the abatement of the other symptoms.

It is worthy of notice, however, that in almost all cases the subsidence of the tumor was gradual, and that in one instance nearly five months elapsed before the disappearance was complete. This fact, coupled with the circumstance that care was always taken to secure a thorough action of the bowels by the administration of purgatives, clearly indicates the inflammatory nature of the tumefaction, and forbids the supposition of the latter being directly due to fecal impaction in the cæcum. In one exceedingly chronic case, in which the disease lasted for several months,

an accumulation of hardened feces in the cæcum and colon seemed evidently the origin of the inflammatory mischief, which continued, however, long after the exciting cause had been removed. So far as the early symptoms are concerned, these cases could not be distinguished from those that were destined to go on to suppuration. The abdominal pain, the fever, and the gastric disturbance were quite as severe, and the indurated mass occupying the iliac fossa presented the same characters. I have therefore learned to decline, in the beginning of the disease, to express a definite opinion as to the probable ultimate result, since time alone can decide whether the inflammatory process shall be arrested, or advance to the stage of suppuration. Fortunately, the doubt is often solved at an early period, for I ascertain from my notes that in five out of the ten cases resolution occurred as early as the fifth, and not later than the eighth day; while in only one case was it delayed beyond the fourteenth day. The favorable termination was indicated by a decided fall in the pulse and temperature, the latter sometimes dropping below the normal standard, and by a marked diminution of abdominal tenderness, pain and distension. These signs of improvement generally coincide with a decrease of the local tumefaction, traces of which, however, as has been mentioned, often remained long after the establishment of convalescence. In a few instances the tumor subsided so rapidly as to suggest that an abscess had ruptured, although a careful inspection of the urine and feces failed to detect admixture of either blood or pus.

Regarding the pathology of the cases now referred to, nothing very definite can be stated. In one case, impaction of feces in the cæcum seemed a probable cause; in another, the disease came on after unusual muscular exertion; while in a third, it may have been due to some intestinal lesion accompanying continued fever. In the remaining seven cases, no adequate cause could be discovered. In all, however, the symptoms pointed to plastic inflammation of the connective tissue adjacent to the cæcum as the proximate cause of the characteristic induration which, with a single exception, was found in the iliac fossa. In this exceptional case, in which the inflammatory swelling could be felt only through the rectum, it may be conjectured that the

irritation proceeded directly from the vermiform appendix which, instead of being curled up behind the cæcum, lay at, or below the level of the brim of the pelvis. What proportion of cases were connected with the lodgment of faecal concretions or foreign bodies in the vermiform appendix cannot, of course, be determined; but it should be remembered that this morbid condition is the most frequent cause of perityphlitis when the disease culminates in abscess, and that in many of the latter class of cases, there is obtained a history of one or more preceding attacks of a similar character, terminating by resolution. The invariable occurrence of such disease on the right side can be explained only by reference to the cæcum or its appendix as the starting point; and pathological anatomy has demonstrated that lesions of the appendix are relatively more frequent, as well as more dangerous than those of the cæcum itself.

The treatment of the cases which terminated in resolution consisted mainly in local depletion, the application of fomentations or poultices to the abdomen, and the internal administration of opium. Eight or ten leeches were usually applied over the cæcal region, and sometimes the leeching was repeated. The effect was often markedly beneficial. Opium or morphia was given in moderate doses, sufficient to allay pain, but never so as to induce narcotism. Castor oil, fluid extract of senna, or calomel was administered in nearly all cases early in the disease, and I would remark that this practice appears to be judicious for two reasons: first, to afford aid in diagnosis, by excluding faecal impaction in the cæcum as a possible cause of the symptoms; and secondly, because any accumulation of faeces in the intestines increases the patient's suffering, and is doubtless liable to aggravate the existing inflammatory mischief. The propriety of using cathartics in this affection has been often doubted, and we are taught by some that here, as in the case of general peritonitis, they should be absolutely withheld. But the analogy between the two diseases is not very close, and experience has shown that the fear which has been expressed concerning the danger of cathartics in perityphlitis is unreasonable. Nothing can be gained, however, by their repeated administration; a single purgative, given in the beginning of the disease, will generally suffice to empty the

Bowels, while subsequent accumulation can be obviated by careful restriction of the diet, and by the selection of light, nutritious articles of food. The treatment thus briefly outlined has been occasionally supplemented by the use of blisters and mercurial applications, whenever the absorption of the inflammatory products appeared to be unduly retarded.

The recognition of the class of cases first described is important, on account of the erroneous opinion widely entertained, that perityphlitis, when once established, must necessarily proceed to suppuration. While this may, perhaps, be true when the disease is due to perforation of the intestine, with the consequent escape of its contents into the surrounding tissues, it is quite exceptional in those cases which owe their origin to the mere presence of hard and indigestible substances in the cæcum or its appendix, to the extension of catarrhal processes in the cæcum through the intestinal coats, to the effects of injury, or to causes which, with our present lack of knowledge, we are unable to define, but yet cannot refuse to acknowledge. Such cases, tending to recovery without suppuration are, as my own experience proves, by no means rare, and their relative frequency is doubtless greater than my figures would seem to indicate, inasmuch as the surgeon is apt to witness the severer, rather than the milder examples of the disease. Since many of them terminate favorably before the end of the first week, the question of the propriety of surgical intervention will often not arise, but when resolution is deferred to the tenth, twelfth or fourteenth day, or even later, it will often require nice judgment to decide whether to operate or not, especially as the surgeon is taught, in doubtful cases, to resort to the knife, without waiting to detect fluctuation, and not to delay the incision much beyond the first week of the disease. It must be evident, however, that the question of operation is one that cannot be settled by time alone, and that all the circumstances of the case should be carefully considered before resorting to a procedure which may be needless and possibly hazardous. This subject naturally leads to the study of the cases forming the second group, namely, those of abscess terminating in spontaneous recovery.

I have already remarked that in several cases included in the

first series, the subsidence of the local swelling took place so rapidly that it was hard to believe an abscess had not ruptured and emptied its contents into some neighboring hollow viscus. But as an examination of the urine and fæces afforded no evidence in support of such a view, the question was necessarily left in doubt. In three instances, however, my notes furnish conclusive proof that such an event may happen and that it may be followed by complete and speedy recovery. Many years ago I attended a lady afflicted with an abscess in the cæcal region, which, at the end of the second week, was accompanied with alarming symptoms of general peritonitis. Suddenly a large quantity of pus was discharged at stool, and the patient, whose condition had hitherto seemed desperate, became immediately convalescent. In the year 1876, I saw, in consultation with Dr. Pierson, of Orange, a girl nine years of age, who had suffered during the previous eight days with the usual symptoms of perityphlitis. At the time of my visit I discovered a non-fluctuating, tender swelling in the iliac fossa. The severity of the general symptoms, as well as the abdominal pain and distension, led me to suspect the existence of an abscess, which I succeeded in demonstrating by employing the hypodermic syringe as an aspirator and withdrawing a small quantity of pus. I paid a second visit to the patient on the following day, intending to open the abscess in the usual manner, but found, on my arrival, that the tumor had almost entirely disappeared. I was informed that during the preceding night the child had grown rapidly worse and complained of intense pain in the region of the bladder. Soon afterward she voided a very large quantity of urine, and then at once became quiet and free from pain. Unluckily, the nurse threw away the urine without examining it, but we inferred that the abscess had ruptured into the bladder. In any case, it must have discharged its contents at the time stated, for on the following morning the tumor could hardly be felt, the pulse and temperature had declined to the natural standard, abdominal pain and distention had disappeared, and the patient had evidently passed the crisis. The third case I saw last year in consultation with Dr. M. R. Vedder. The patient was a girl thirteen years old, who had been attacked with perityphlitis a week previously.

I found the usual tumor well marked in the iliac fossa, and also unusually prominent in the rectum. A purgative was prescribed which acted freely, and on the ninth day of the disease the swelling almost disappeared, and the fæcal evacuations, on being examined, were seen to contain a notable quantity of blood and pus. In this case the abscess probably broke into the rectum, and, as in the two other instances just related, the patient speedily regained her health.

These three cases prove that even when a perityphlitic abscess is left to itself, its course is not always unfavorable, but that its contents may be discharged into the intestine or possibly into the bladder, without any serious consequences. Indeed, it would appear that this mode of termination is adapted to secure the best possible result, for convalescence begins as soon as the abscess has ruptured, whereas, after an external opening has been established either naturally or by incision, the suppuration is always more or less protracted and the cure correspondingly retarded. Unfortunately we are unable, in any given case, to predict this result, which, moreover, is so exceptional in its occurrence that it does not invalidate the rule of affording vent to the matter by an external incision, so soon as the diagnosis of abscess is reasonably sure.

Cases of abscess treated by operation. This group contains eleven cases, the study of which reveals many interesting facts. The characteristic tumor in the iliac region was present in all the cases, but in only two was any swelling discoverable on digital exploration of the rectum. In four instances there was fluctuation. In one of these the date of operation was not recorded, but it was late in the disease, and the integument was extensively undermined, nevertheless the patient recovered. In the three remaining cases the abscess was opened on the fifteenth day, the seventeenth day, and at the end of the ninth week, respectively. The last named case, in which the operation was so long delayed, terminated fatally by septicæmia. At an earlier stage of the disease, and before fluctuation was evident, I proposed an exploratory incision, but the patient refused to submit to it. When, at last, the abscess pointed over the middle of the crest of the ilium, it had already burrowed extensively and acquired extra-

ordinary dimensions. After being opened, it continued to discharge very copiously, and, in spite of the employment of antiseptic injections, septicæmia occurred and carried off the patient. The case is instructive as illustrating the danger of delay, for it is the only one out of the entire number embraced in the present group in which death followed the operation. Had the abscess been opened at an earlier period, a fatal termination would probably have been averted.

In the remaining seven cases that were treated by incision, fluctuation was absent, and there does not appear to have been any one symptom indicating that suppuration had taken place. Yet in only one instance did the knife fail to penetrate an abscess, a circumstance which shows that the diagnosis can be made out with tolerable certainty, even when demonstrative evidence is wanting. Rigor, sweating, high temperature, acceleration of pulse, abdominal pain and tympanites, and an increasing extent combined with diminishing firmness of the abdominal tumor, are the chief signs which indicate the formation of pus. But none of these signs is invariably present, and it would be a difficult matter to say which one of them is the most important. But although in the early stage of the disease it may be impossible to discriminate between the cases that are going to terminate by resolution and those that are to end in suppuration, the latter may usually be distinguished toward the close of the second week by the generally unfavorable condition of the patient, who seems to be growing worse instead of better; whereas, when resolution is about to take place, the later course of the disease is comparatively mild and favorable. In one remarkable case already mentioned, wherein the affection continued for many months and ended without suppuration, the combination of symptoms was never such as to demand surgical interference, although on two occasions I was nearly persuaded to undertake an exploratory operation.

The seven cases now under consideration were treated by incision as follows: one on the ninth day, two on the twelfth day, one on the thirteenth day, and two on the twenty-first day. In all cases except the first, the abscess was found and opened. In the one in which the incision was made on the ninth day, no

abscess could be discovered, although the knife was carried through the fascia transversalis, and the hypodermic needle thrust in various directions in the hope of finding pus. After the operation the patient grew worse, and his life was despaired of, when, eleven days later, an abscess broke and discharged its contents through the wound. Perhaps, in this instance, the operation was serviceable by dividing dense structures which might have offered resistance to the progress of matter toward the external surface, but it would, of course, have been more gratifying if an abscess had been reached at once. Usually a perityphlitic abscess remains of moderate size until about the end of the second week, and by deferring an operation until it is ripe, we shall find the deeper textures consolidated and agglutinated by plastic lymph, and, therefore, less liable to be infiltrated by the fetid discharges which, after incision, often cause more or less sloughing of the margins of the wound. On the other hand, the danger that the abscess, if unrelieved, may rupture into the peritoneal sac must not be forgotten. Through the kindness of Dr. Wiener I have the opportunity of showing to the Society a specimen illustrating this unfortunate accident. On Tuesday last, Dr. Wiener was called to see a gentleman who had been ill for six days with perityphlitis. The characteristic tumor was present in the iliac fossa, and the case being regarded as one of abscess, arrangements were made to open the latter on the following day. During the night, however, in consequence, it is supposed, of some incautious movement made by the patient, rupture into the peritoneum took place, and death ensued ten days afterward. The bursting of the abscess was indicated by a disappearance of the tumor and by collapse, followed by the usual symptoms of acute peritonitis. I believe such an event as this is very rare, but the possibility of its occurrence must make us watchful and anxious until the crisis is past. Everything depends on an exact diagnosis and on an early recognition and treatment of existing abscess, and I would suggest a more frequent employment of the aspirator as affording the most reliable test at our command for purposes of diagnosis. The smallest needle will suffice, and can be repeatedly inserted, if necessary, without doing harm. By means of this instrument the situation,

as well as the presence of an abscess, can be determined, and it is well known that these collections of matter do not always occupy the same locality.

In every case that has fallen under my observation, the operation has been performed essentially in the manner recommended by Dr. Parker. An incision several inches in length, and usually parallel with Poupart's ligament, was made over the most prominent part of the tumor, through the skin and sub-cutaneous fat. Subsequently the deeper layers were divided until the abscess was reached, or until the fascia transversalis came into view. If fluctuation then became evident, the abscess was immediately opened, otherwise the fascia was penetrated in various directions by means of a hypodermic syringe until the seat of the abscess was discovered, when the operation was completed by entering a narrow bistoury alongside of the needle. I have no doubt that this method of operation, wherein the aponeurotic and muscular layers composing the abdominal wall are successively and cautiously divided is better than the plan which has been proposed of plunging a bistoury directly into the abscess and then enlarging the wound as the knife is withdrawn. Such a course can only be proper when fluctuation is present, and the matter lies near the surface. Nevertheless I would avoid the extensive incisions which are sometimes recommended, and which have been known to be followed by hernial protrusion. An external incision of two inches will afford ample space; and the wound should grow narrower as it increases in depth, while the direct opening into the abscess need not be larger than will readily admit the forefinger. This I think it desirable to insert, in order to ascertain the extent of the cavity, and to detect, if possible, the presence of foreign bodies or fecal concretions. When these are found, they should always be removed; otherwise they may cause future trouble. In a case which I treated by incision several years ago, the patient did well after the operation, and returned to his work. About a month later, however, suppuration recurred, the wounds re opened, and allowed the escape of a small fecal concretion, the discharge of which was followed by a permanent cure.

Concretions were found in four out of the eleven cases treated by incision. One of them was large, and resembled in size and

shape a date pit; the others were small, and, like the large one, consisted of inspissated faecal matter, arranged in the form of concentric laminae. One of them contained a few raspberry seeds, and in one instance, eight concretions, evidently formed in the appendix, were obtained from a single patient. Probably similar formations existed in other cases, but were overlooked and thrown away with the discharges. The contents of the abscesses were always exceedingly fetid, had a faecal odor, and were more or less gaseous, rendering it probable that the intestine had been perforated. It is not a little remarkable that these perforations of the intestine, evident in some instances, and probable in all, invariably closed, for in no case did a fistulous track remain as a sequel of the operation. In the earlier cases the abscesses were kept clean by daily injections of tepid water; in the later ones a drainage tube was inserted and the injection made antiseptic by the admixture of carbolic acid.

My notes contain several cases in which perityphlitis occurred more than once in the same patient. In one of these the second attack, which terminated by resolution, took place thirteen months after a successful operation for abscess. No concretion or foreign body was found at the time when the abscess was opened, and it is possible that the retention of some such extraneous substance may have caused the subsequent trouble. This supposition is favored by the history of two other cases given in the table, in one of which there had occurred within a period of two years no fewer than three attacks of perityphlitis, the last one only ending in abscess. In the other patient an abscess formed two and a half years after a sharp attack of perityphlitis, terminating in resolution. In both, faecal concretions were discharged from the abscess; and it is fair to presume that these had been the cause of the previous attacks. Such cases teach us that we should be guarded when giving a prognosis respecting the liability to a recurrence of the disease, after recovery has taken place by resolution. If the appendix contains a concretion, this will probably excite renewed irritation until the offending substance is discharged by suppuration.

In opening perityphlitic abscesses, in which fluctuation could not be detected, I have always proceeded with caution, for fear of

wounding the peritoneum or the intestine; but I am doubtful whether such caution is absolutely necessary. Whether in consequence of the fact that these abscesses contain gas, or because they are adjacent to the intestine, they often yield a tympanitic sound on percussion, giving one the impression that the intestine is close at hand. But I have never observed this to be the case on opening the abscess, which is frequently so large that the forefinger inserted into it can barely touch the cæcum, displaced from its normal situation toward the median line.

It is generally assumed that when abscess results from perforation of the appendix, the matter is contained in the peritoneal sac, a portion of which is shut off from the rest by adhesions between the intestines, the parietal peritoneum, or the omentum. That the abscess may be thus constituted I am well aware; but I believe that such a mode of origin is quite exceptional, and that when, in consequence of intestinal perforation faecal matters escape directly into the peritoneal cavity, the result is almost invariably a diffused septic inflammation of the peritoneum, ending in speedy death. Pathological anatomy has shown the possibility of another mode of abscess-formation, which I believe to be far more common. The vermiform appendix, before becoming perforated, may contract adhesions to the peritoneum lining the iliac fossa, on which it usually rests. Consequently, when the coats of the appendix have been destroyed, the ulceration extends through the apposed layer of peritoneum in such a manner, that the faecal matters, instead of entering the serous sac, gradually pass into the loose connective tissue which lies outside the peritoneum, and there set up suppurative inflammation. The pus, as it accumulates, may burrow behind the cæcum and ascending colon; or it may descend behind the peritoneum into the pelvis; or, as most often happens, it may occupy more or less completely the iliac fossa. In the latter case, the serous membrane, which is here very loosely adherent to the iliac fascia, will be detached and deflected toward the median line, carrying with it, in the same direction, the cæcum and the small intestine. Here there will be little danger of wounding the peritoneum while opening the abscess, provided the operator avoids the upper and inner margins of the tumor, where the serous membrane forming the

boundary of the abscess is reflected upon the anterior abdominal wall. Of course, in the event of an erroneous diagnosis, grave accidents might occur, for an incision which, in the case of abscess, would simply enter the suppurating cavity, might otherwise penetrate the peritoneal sac and perhaps also involve the intestine. The aspirator offers, as has been stated, the best safeguard against such a blunder, and should invariably be employed in doubtful cases.

I have but a few words to add concerning the fourth and last group of cases, those in which the abscess terminated fatally, without discharging its contents either internally or externally. This group comprises only two cases, both of which possess features of interest. One of them I saw six years ago, in consultation with Dr. Smith Ely, of Newburgh. The patient was a gentleman forty-eight years of age, who after having suffered for some time with the symptoms of inflammation in the region of the cæcum, was seized with general peritonitis. At the time when he came under my observation, I found the abdomen greatly distended, but could discover no tumor in the iliac fossa or in the rectum. He declined to submit to the usual exploratory operation, but allowed me to cut through the skin and the thick subcutaneous fat, and to insert the needle of a hypodermic syringe into the deeper tissues. This was done with a negative result. Death occurred from peritonitis, and a post-mortem examination revealed an extensive abscess behind the cæcum and ascending colon, reaching as high as the under surface of the liver, and communicating with the intestine through an ulcerated opening in the posterior wall of the cæcum. The abscess was filled with pus and blood, and did not open into the peritoneum. The vermiform appendix was intact. This case, as well as the one I am about to relate, shows that a perityphlitic abscess may be situated altogether behind the colon, and suggests the propriety of inserting an aspirating needle through the posterior wall of the abdomen, when the symptoms of perityphlitis are present without the development of the usual iliac swelling. Should matter be found, it could then be evacuated by an incision like that usually made in the operation of colotomy.

The second patient, a gentleman forty years of age, I saw in

consultation with Drs. Rodenstein and Otis. The history of the disease pointed clearly to perityphlitis, but there was no tumor. Digital exploration of the rectum failed to discover any swelling, but detected slight tenderness high up on the right side. On the fourth day the patient became somewhat delirious, and on the sixth day he had a convulsion. From that time until his death, which took place on the sixteenth day, the symptoms were those of cerebral inflammation, the patient dying comatose. A post-mortem examination discovered the changes in the brain characteristic of purulent meningitis; and the disease in this case seemed to be pyæmic, for, on opening the abdomen, an abscess containing eight ounces of fetid pus was found situated in the lumbar region, behind the cæcum and ascending colon. The abscess communicated with the vermiform appendix, which was the seat of a double perforation. No tumor existed in the iliac fossa. There were no evidences of peritonitis except the presence of some adhesions connected with the appendix.

The early supervention, in this case, of acute cerebral inflammation would have prevented the success of any surgical operation, even had the situation of the abscess been known during life. But the case is instructive as showing that a perforating ulcer of the appendix, like a similar ulcer in the back of the cæcum, may give rise to an abscess in the lumbar region that cannot be discovered by the ordinary method of examination.—*Annals of the Anat. & Surg. Soc'y*, July, 1880.

SOME PRACTICAL REMARKS ON CHRONIC RHEUMATISM.* By
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University of Pennsylvania.

As the remarks I propose to make to-day are purely of a practical character, I shall be able to avoid all discussion of disputed theoretical points. Nor have I any idea of attempting a description of all the varieties of chronic rheumatism so-called, or a recital of all the innumerable remedies recommended for their

* Read before the Oxford Medical Society, July 21, 1880.

treatment. My only object is to try to sketch a few of the groups of cases that come most frequently under my observation, and to mention the practical lessons I have learned from their study.

In the first place, while it is undoubtedly true that some cases of so-called chronic rheumatism are really rheumatic in nature, it is equally certain that others are not so. It seems to me too much the custom to call a case one of chronic rheumatism simply because the seat of the disease is in one or more joints. It is true we are entirely ignorant of the essential nature of rheumatism, but at least all agree in considering that it is a general or constitutional disease, and that the articular affections are merely its local manifestations. On the other hand, it cannot be doubted that the different tissues entering into the formation of a joint are liable to various other sorts of diseased action. Gouty or syphilitic inflammation may occur; traumatic irritation is very common, and simple idiopathic inflammation from ordinary causes, such as damp, changes of weather, etc., may occur here as elsewhere. In addition to this, it would be found on careful examination, I am sure, that many painful affections of tissues near joints are commonly called rheumatic, although the joints proper are themselves not involved, unless secondarily.

Among the cases that may be selected in illustration of these remarks, I have met with a strikingly large number where the shoulder joints have been affected. The symptoms with which such patients have presented themselves have been pain referred to the shoulder joint, and inability to make the ordinary movements of the arm, particularly to raise it above the head or to put the hand behind the back.

In the majority of cases only one shoulder is affected, but I have met with a good many instances where both were involved. Sometimes the affection has been of a rheumatic character, and either originally formed part of a general articular disease, or was from the first the only local manifestation of a constitutional disturbance. But frequently no such rheumatic element could be assumed positively; but the affection appeared purely a local one. The cause has occasionally been traumatic—as a fall, striking on the open outstretched hand, or so as to drive the head of the humerus violently against the glenoid cavity, or so as to put on

the stretch and irritate the synovial capsule and the nerves which pass in close proximity to the joint. The same result has been caused by a blow on the shoulder, or by a sudden and violent muscular exertion. In other cases, a sudden chilling of the surface while overheated, as by a cool draught blowing on the shoulder, has excited the inflammation. Sometimes the trouble has come on very insidiously, by the repetition of trifling and almost unnoticed irritations, until finally a state of positive disease is established. But, however excited, the anatomical conditions and the symptoms are similar.

Pain is, as I have said, a constant symptom. It is often worse at night, and interferes much with sleep. It is of a wearing, sickening character, and is increased by attempts at motion or by allowing the arm to hang downward. The head of the humerus quickly assumes the position of a slight subluxation forward and downward. Pressure with the finger along the course of the brachial plexus constantly reveals decided local tenderness of the nerve trunks, due to a neuritis or perineuritis that has resulted either from the original cause of the attack, or from an extension of inflammation from the synovial capsule. In case the head of the humerus is allowed to occupy its unnatural position, the irritation of the nerve trunks is greatly increased by the pressure of the head of the bone, and the secondary neuritis becomes more serious and extensive. The circumflex and the median nerves are those most commonly involved. The pain now radiates along the course of these nerves and especially extends down the arms and into the fingers; a feeling of numbness and tingling, or burning, is apt to accompany it. Liquid effusion into the synovial capsule is rare, but a tendency to adhesive inflammation rapidly shows itself, and in a wonderfully short time slight, false ankylosis develops, which, if neglected, grows more and more close and firm, holding the head of the humerus with constantly increasing force in its abnormal position. From the very first, the power of movement of the arm is much impaired. The hand and forearm do not share in this; but the arm can be lifted only a short distance from the side, so that the hand cannot be fully elevated. Rotation of the humerus is prevented so that the hand cannot be carried behind the back. The patient soon finds he

cannot use the hand on the affected side either in eating or in dressing.

The angle to which the arm can be raised varies greatly in different cases, and in testing the power of motion it is necessary to guard against error by fixing the scapula by firm pressure, since otherwise the patient will unconsciously deceive by tilting the thorax toward the sound side, and thus apparently bringing the humerus on the affected side to a higher level.

The cause of this impaired mobility is at first the instinctive avoidance of pain and the lessened power of the deltoid from the irritation of the circumflex nerve, which is distributed to this muscle. But other influences soon come into play. Adhesions form and hold the head of the bone more and more firmly; the deltoid soon begins to waste from disuse, and the inflammation of the circumflex nerve impairs the nutrition of the muscle and hastens its atrophy. The dependent position and disuse of the arm, and the interruption of circulation caused by the pressure on the veins, lead to passive congestion and œdema of the hand and forearm. If a descending neuritis is established in the ulnar and median nerves, atrophy of the muscles of the forearm and hand ensues ere long, and, finally, a most helpless condition of the member is brought about.

Brief notes of a few illustrative cases may be interesting:

CASE 1.—Mr. S. R. S., æt. 50, banker, fell on ice, and holding out left hand to save himself, felt a sharp pain in left shoulder joint. When seen, two days later, there was inability to lift left arm more than to angle of 45° from body, and that was very painful. There was exquisite tenderness over the brachial plexus; the circumflex nerve felt swollen, and was especially painful. The arm was supported so as to carry upward and backward the head of the bone. Passive motion was begun at once, and continued daily so as to prevent adhesion; a blister was applied over the inflamed nerve trunks; iodide of potassium and bichloride of mercury given internally. In a few days the soreness was greatly relieved, and then Faradic electricity was applied daily to deltoid; more thorough passive movements were practiced, and a very rapid cure followed.

CASE 2.—George Kiegel, æt. 57, carter, came to me on April

24, 1877. The month previously began to notice pain in right shoulder; shortly before that had fallen on the ice. The aching pain continued, and in two weeks he had to give up work, and in two weeks more he could not dress himself. The case had been regarded as one of rheumatism. The arm had been kept quiet, and internal and local remedies used. The pain and helplessness steadily increased. When I first saw him, he could not lift humerus from side at all. The deltoid was markedly atrophied. The head of the humerus was in advance of its normal position, and was very firmly held there by strong adhesions. There was intense tenderness with marked swelling of the nerve trunks in front of the head of the humerus. There was severe pain about the shoulder, also extending down the arm along the course of the nerves, most acutely felt at elbow and at interphalangeal joints. This latter pain was much increased by closing the hand. There was numbness of hand and arm, and occasionally the hand became swollen. Unquestionably storms and sudden changes of weather increased pain, numbness and weakness. With dynamometer right hand gave only 40; left hand 110. Iodide of potassium, gr. v, t. d.; repeated blistering over the inflamed nerve trunks; persistent graduated passive movements until adhesions were all stretched and broken, and then faradization of deltoid and shoulder group of muscles, constituted the treatment. By June 12, 1877 (seven weeks), the arm could be moved passively in all directions; the deltoid was regaining its size and power, and power of movement had returned to a great extent, although he was not yet allowed to work. R. hand with dynamometer 100. Pain entirely relieved.

CASE 3.—Mrs. M., from Chester, Penn., æt. 45, accustomed to doing rather laborious housework, applied to me in 1875 for the relief of extreme pain in the right arm, combined with total helplessness. She had evidently taken cold repeatedly while overheated, and had had repeated slight attacks of pain about the right shoulder joint. Finally the pain grew so severe that she was obliged to give up work, and soon she found herself unable to lift her arm from her side, or lift her hand to her head to feed herself, or to use it in dressing herself; and finally it grew almost entirely useless. During this time she suffered constant pain.

It was of a wearing, dull character, in the shoulder joint, frequently shooting down the arm to the fingers, and was so severe at night that she scarcely slept at all; and her general health had suffered greatly, with much loss of flesh in consequence. The condition had lasted for several months when she first consulted me. She stated that she had been treated for chronic rheumatism, and that she had been recommended to keep the arm at rest. There was advanced atrophy of the right deltoid muscle, and the application of the faradic current, or of a slowly interrupted galvanic current, caused scarcely any contraction of its fibers. The head of the right humerus was firmly fixed in a position of slight subluxation forward and downward, and any attempt to rotate it, or to elevate it in any direction, met with firm resistance, and caused intense pain. The cords of the brachial plexus were swollen, hardened, and exquisitely tender. The muscles of the right arm and forearm were somewhat atrophied; the hand was puffy and swollen, and there were severe complaints of burning and tingling pain, with numbness down the arm and through the hand. Systematic manipulation of the arm, directed toward breaking up the adhesions, was used at intervals of about five days, despite the intense suffering caused. After each treatment, however, the pain was lessened, and mobility was increased.

She was also exhorted to use the arm as much as possible, carrying her efforts as far as her endurance would enable her to do. Repeated blisters along the inflamed nerves were used; the whole shoulder was enveloped in a batt of wool saturated in a strong liniment of chloroform and aconite. Iodide of potassium and bichloride of mercury were given internally. After some degree of mobility was restored, massage of the deltoid, with occasional faradization, was used.

Electromotor contractility gradually returned, and the muscle gained in bulk satisfactorily. Treatment extended over three months, by the end of which time pain was entirely relieved, and she was able to use her arm quite freely. She was directed subsequently to continue regular gymnastic exercise with it, so as to thoroughly complete the restoration of motion and power, and

I learn now (June, 1880), that the arm has long since returned to its normal state.

I could quote from my case-books the records of a very large number of instances presenting the same essential conditions as the last; but I will only tax your patience by reading the notes of one of a different type, although illustrating some of the same points.

CASE 4.—Mrs. R. A., sent to me Sept. 4, 1875, from Belmont county, Ohio. She was about 40 years of age, and had enjoyed general good health. Two years previously, numbness in both hands came on quite suddenly, and gradually grew worse, extending up arms to shoulders. There was gradually increasing weakness of arms, and frequent aching pain, especially before changes in the weather, in shoulders and down arms. The case had been regarded as one of chronic rheumatism; she had been directed to keep the arms as quiet as possible; liniments had been used and anti-rheumatic remedies given internally. The left arm was the worse. The deltoid was considerably atrophied, and quite close ankylosis of the shoulder joint existed. The muscles of both arms, especially the left, were decidedly atrophied.

Unquestionably the beginning of this interesting case was a rheumatic neuritis of the nerve trunks (medians or ulnars) in both arms, which ascended until it reached the circumflex nerve and the brachial plexus. Partial loss of power of the deltoids (particularly the left) had combined, with intentional disuse, to allow the head of the humerus to remain comparatively motionless, until adhesions formed between it and the glenoid cavity.

Passive movements until all adhesions were broken up; regulated massage and exercise; persistent counter-irritation along course of inflamed nerves; the use of the constant galvanic current, and the internal use of iodide of potassium with small doses of bichloride of mercury, was the treatment directed. The patient returned home at once, and the result is unknown.

It is not only in reference to affections of the shoulder joint that a careful study of the adjacent nerve trunks is important, but I know no other joint where arthritis is so apt to be associated with neuritis. Sometimes the neuritis is the primary trouble, and the joint becomes involved secondarily; more com-

monly, the arthritis precedes and a secondary neuritis from extension of irritation ensues. The essential point, however, is to recognize the two elements and to adapt the treatment accordingly. If the case be seen at an early stage, before any anchylosis or atrophy of the deltoid has resulted, a rapid cure can be effected by the use of a suitable bandage to support the arm and carry the head of the humerus upward and backward, thus obviating any pressure on the nerves or vessels; by active counter-irritation along the course of the nerve trunks if they are found tender and swollen; by the internal use of full doses of quinia, together with iodide of potassium and bichloride of mercury; and, as soon as the acute inflammation is subdued, by the application of a galvanic current, the positive pole being placed over the affected nerves and the negative pole over the deltoid muscle.* But while these measures are being carried out, it is essential that as soon as the acute stage has passed by (say after the first two or three days), gentle and gradually increased passive movements of the arm should be practiced.

But, in my own experience, such cases have much more commonly come under observation at a later stage, and when more or less serious changes have occurred. The first point of importance, then, is the diagnosis; and there are several conditions with which it is possible to confound the affection we are considering. In the first place, finding the head of the humerus somewhat displaced from its normal position, the shoulder decidedly flattened, and the movements of the arm much restricted and painful, and learning possibly that some fall or twist had preceded the trouble, the idea would naturally occur of a subluxation of the humerus. Indeed, as I have already said, there does come to be a slight degree of subluxation, and in very chronic cases where immobility has been allowed to continue for a long time, the glenoid cavity undergoes such changes as to render it impossible for the head of the humerus ever to resume its normal position. But I have known cases where, after the acute stage had been injudiciously

* We owe to Remak the demonstration of the great value of the constant current thus applied in cases of articular neuritis, accompanied with paresis of the deltoid. See his noteworthy "application du courant constant au traitement des névroses," Paris, 1863, pp. 41. Extracted from *Revue des Cours Scientifiques*.

treated with the usual result of ankylosis, the patient has fallen into the hands of unscrupulous charlatans or ignorant bone-setters, who have been shrewd enough, however, to recognize the necessity of forcible motion of the joint, and then, on finding, after one or two sharp cracking sounds have been distinctly perceived, that the bone returns more nearly to its normal position, and that marked improvement in the power of movement has ensued, have advanced the theory that the case has been one of neglected subluxation from the first, and that damages for malpractice should be claimed. Such an error would be impossible at the early stage of the case; and later, by careful attention to the history and evolution of the case, and by observing that the restriction of mobility is not only in the direction that would result from a subluxation forward, and that just in proportion as the adhesions are broken up by gradual passive exercise, normal mobility returns, it is possible to avoid any mistake.

I have repeatedly known such cases to be regarded merely as paralysis with atrophy of the deltoid, and a treatment of persistent faradization, hypodermic injections of strychnia, etc., to be carried out, but, of course, without any result, because the cardinal fact was overlooked that the paralysis and atrophy of the deltoid (which undoubtedly existed) resulted from: 1st, neuritis of the circumflex nerve, excited and maintained by the articular trouble and the abnormal position of the humerus; and 2d, by disuse owing to neglected ankylosis of the shoulder joint. The mode of development of the case, the early impairment of motion in directions not requiring the action of the deltoid, the pain and tenderness, and, finally, the ankylosis—all render easy the recognition of the true nature of the case, and show that the conditions of the deltoid are purely secondary.

The mode of treatment that succeeds, even in very bad and long continued cases, has been, perhaps, sufficiently alluded to in the brief records of several cases already given. A few words may be added, however, in regard to some of the points.

Systematic passive movement and massage are the most essential parts of the treatment. Without these to free the head of the bone from its abnormal position and relieve pressure on the nerves and vessels, all else must fail utterly; while just in pro-

portion as the adhesions are broken up, all other symptoms improve. I may say that, in my experience, etherization and the forcible breaking of the adhesions has never resulted as favorably as their more gradual destruction by repeated, comparatively gentle passive movements. Used with the utmost care, however, great suffering is always caused; but this must be disregarded, and the manipulations be steadily persisted in, since all delays increase the atrophy of the muscles and render a cure less hopeful. In addition, the patient should be encouraged to use the arm as much as possible, instead of being allowed or directed to keep it quiet.

Pain is often intense. I have frequently known the general health suffer gravely from the interference with sleep. The removal of the adhesions is the surest mode of affording relief, but more immediate methods are needed. The hypodermic injection of morphia and atropia, the application of strong veratria ointment, or of a strong liniment of aconite and chloroform, and the application of the constant galvanic current are the most prompt and reliable remedies.

Neuritis is so common a complication that the condition of the nerve trunks (especially the circumflex and the median and ulnar) nearly always calls for treatment. Repeated small blisters along the course of these nerves, and the use of the galvanic current in the way already mentioned, i. e., with the positive pole over the irritated nerve trunk, and the negative pole over the fibers of the deltoid, is the best treatment, combined with the internal use of iodide of potassium with small doses of mercury. I should not limit the use of these remedies to those cases only where a rheumatic element clearly exists, but would recommend their use generally for the relief of the chronic arthritis and of the inflammatory swelling of the nerve trunks.

As a further illustration of an analogous form of articular and neural trouble, although involving a different member, the following interesting case may be cited:

CASE 5.—Mr. D., of Mahanoy City, age 38, has never had syphilis, but has been much exposed to wet and cold. In August, 1877, began to suffer with pain and swelling of the right knee, and with pain in the muscles of the back, and extending thence

around the limb, and down the front of the right thigh as far as the knee. On August 18th the pain became very violent, and he was confined to bed for five weeks; since then it has not been so violent, though subject to frequent severe, sudden shocks. There has also been constant pain about the right knee and along the thigh. He consulted me November 1, 1877. The right knee joint was swollen, with some effusion, painful and stiff. The anterior group of thigh muscles were weak and decidedly wasted. Marked tenderness existed along the course of the anterior crural nerve. The urine presented a heavy deposit of urates. A plaster of ammoniac and mercury was applied over the knee; blisters were applied along the course of the affected nerve; mild faradization of the muscles of the thigh was employed daily; and internally iodide of potassium, three grains, increased to six grains, with Donovan's solution, ten drops, thrice daily, were given. In the course of two weeks improvement was marked, and went on steadily to complete recovery. When last seen, in September, 1879, he remained perfectly well.

I have dwelt thus minutely on this form of articular trouble, not only because I am led to believe it is a rather frequent affection, and one which does not always receive prompt recognition and appropriate treatment, but because it seems to me to illustrate clearly the important points: that painful articular affections are by no means always of a rheumatic character; that many of the symptoms connected with articular affections may be due to implication of surrounding tissues, and particularly to inflammation of adjacent nerve-trunks; that the paralysis and atrophy of muscles connected with the affected part, which constitute most serious complications, are often attributable to the influence of a neuritis, more than to that of prolonged inaction; that in many cases of arthritis without liquid effusion there is a strong tendency to the formation of adhesions; and that this false ankylosis, particularly where, as in the shoulder joint, the bone becomes fixed in an abnormal position, constitutes a serious complication and should be prevented by an early resort to gentle, systematic passive movements.

In connection with this most important and difficult question of when to use rest and when to use movement in the treatment of

articular affections, I will allude briefly to the subject of rheumatoid arthritis. It is clear that this interesting disease has no direct relations with either acute articular rheumatism or with true gout. But it has unmistakable analogies with conditions that must be grouped under the name of chronic rheumatism. It attacks persons who, whether from inherited tendencies or from acquired weakness, present conditions of depressed vitality with abnormal sensitiveness to the action of damp and climatic changes. In my own experience, by far the most common and demonstrable cause has been residence in a damp house or a damp locality, operating on a system enfeebled by such depressing influences as excessive child-bearing and sexual exhaustion, or as a severe prostrating illness, such as typhoid-pneumonia. There seems to be developed gradually, perhaps in consequence of the defective action of skin caused by the prolonged action of damp or by repeated chillings of the surface, a morbid state of the synovial tissues, and to a greater or less degree of the subjacent articular cartilages. One joint after another becomes involved, with a certain regard to symmetry, but without regard to the size or locality of the joints. Some effusion occurs at first into the synovial capsules, but later this is apt to be absorbed; the synovial membrane is thickened and roughened; in places destruction occurs both of the membrane and of the subjacent articular cartilage. Meanwhile the margins of the joints are involved, and ridges or nodules of new-formed bony tissue appear; the fibrous tissues become thickened, and the tendons no longer play freely through their sheaths; the whole joint becomes more and more distorted and useless; motion grows more and more painful and difficult; finally, firm ankylosis occurs with great deformity, and the functions of the joints are utterly destroyed. One point of very great practical importance in connection with these cases has not been sufficiently noticed. It is the fact that the subacute inflammation extends from the surrounding fibrous tissues to the sheaths of the nerves, and an ascending and descending neuritis is apt to be set up. Not only does this complication cause a serious addition to the suffering in the form of pain radiating along the course of the affected nerves, but it induces grave nutritive changes, such as a

more rapid and extreme atrophy of the muscles than would result from mere disuse, and even degenerative lesions of the skin and nails. The terrible state of helplessness to which the unhappy victims of rheumatoid arthritis are brought, in the later stages of the malady, is familiar to you all, and is well illustrated by this sketch of a patient now in the ward of Philadelphia Hospital, for which I have to thank the skillful brush of my friend Dr. J. M. Taylor.

It is needless to say that by the time a patient reaches any such condition as this, he is far past all hope of real relief from medical treatment. But in the earlier stages I have had numerous occasions of late years of seeing what vast improvement can be effected by systematic treatment of a certain character. I began the study of rheumatoid arthritis with the idea that it was a hopelessly incurable disease. I was aware that every remedy in the pharmacopoeia had been used without positive benefit in its treatment. I can add my testimony, after prolonged and faithful trials, that little is to be expected from any of the well-known anti-rheumatic remedies in rheumatoid arthritis. And yet I have become satisfied that in many cases—and I mean to include severe cases and quite advanced stages of the disease—vast relief can be afforded to the symptoms, the progress of the disease can be checked, and even a considerable degree of usefulness be restored to badly crippled joints.

The notes of the two following cases may be cited here as illustrative, both of the symptoms of rheumatoid arthritis and of the general features of the plan of treatment to which I beg to call your attention :

CASE 6.—Mrs. C., living near Woodbury, N. J., came under my care in March, 1878. There had been no rheumatism or gout among her grandparents, uncles or aunts. Her father died of palsy at seventy-two, her mother of puerperal fever at thirty-nine. She had herself one sister who began to have arthritis at three years of age, and ended by having her joints greatly distorted; finally the disease became inactive, and she lived to the age of thirty-eight years, when she died in childbirth. Mrs. C. herself always enjoyed good health. She was always very sensitive to changes of weather, and required a great deal of cloth-

ing. She ceased menstruating at the age of forty-nine. About the same time she was subject to great mental distress. While passing through the menopause she noticed subacute inflammation of the right great toe, which soon spread to the joints of other toes, and then invaded the wrists and hands, then the knees, then the hips, and at last extended to the elbows and shoulders; the ankles alone were never much affected. The pain in the affected joints was very violent, especially at night; it was apparently influenced by atmospheric changes. It was chiefly seated in the affected joints, but there were also at times lancinating pains along the members. There was marked wasting, with great loss of power of the muscles connected with the affected joints.

There was marked deformity of many of the joints, of the character typical of rheumatoid arthritis. She did not suffer with headache and there was no spinal tenderness, but there was pain in the lower part of the spine. She was confined to a rolling chair. She could move her arms at the shoulders pretty well, but the elbows were very stiff and the wrist rigidly fixed. The legs were fixed at a right angle so firmly that great force was required to elevate them, and motion caused extreme pain. There was marked wasting of the extensor muscles of the thighs, with great tenderness on pressure along the course of the nerves and at certain points along the shafts of the femurs. There was no cardiac disease.

The patient was removed to the University Hospital, where she remained for thirty days, and then returned to her home in Woodbury. Systematic manipulation of the affected members was practiced daily, with forcible movements of the stiffened joints. This movement was effected partly by skillful massage, partly by various mechanical appliances. She was especially urged to make regular muscular exertions herself, and to use the appliances provided to effect as much motion of the joint as possible. A considerable portion of every day was consumed in this regular gymnastic work. At first very limited motion only was possible, but gradually all the joints except the wrists yielded and became much more movable. Regular daily frictions of the whole surface with oil, and twice weekly with

alcohol, were also used; extreme care in dressing was urged, as also in regard to exposure to draughts or to sudden changes of temperature.

Thorough treatment by faradization of the whole muscular system was carried out on alternate days. Internally she took nitrate of silver and small doses of opium and belladonna, given in pill form, thrice daily, until 30 grs. of the silver salt had been taken; and, after an interval of three weeks, another course of 20 grs. was given. Dialyzed iron in doses increasing up to one fluid drachm, thrice daily, was given steadily for a long time. In the intervals between the courses of nitrate of silver she took iodized cod liver oil.

When she left the hospital, she was acquiring gradually increasing power of motion in her joints, and the wasted muscles were gaining in size and strength. She had begun to walk with but slight assistance. Subsequently the same line of treatment was carried out with most gratifying results. The pain was almost entirely relieved, her general health became much better, and at the last time I heard from her she was able to move her joints even more freely than at any previous time of her sickness.

I will also give a brief abstract of the notes of the following interesting case, because it was an example of great benefit obtained in an apparently hopeless state (and because the patient may perhaps be well known to some of my hearers).

CASE 7.—Mrs. S., of Wakefield, Lancaster Co., Penn., lived in a house which was probably quite damp, and at the age of twenty-seven, while feeling somewhat run down, she had a severe attack of pneumonia of the left lung, ten days after which she was taken with inflammation of the left shoulder and elbow, soon followed by inflammation of both knees and hips. The pain was very acute even during entire rest, especially so at night, and was much increased by motion. Since then the disease had progressed with acute exacerbations at irregular intervals, at which time new joints became affected, and those already diseased became worse. In the intervals the acute symptoms would subside to some degree. At the time of the exacerbations there was usually some fever. The urine had frequently shown deposits of urates. The general health suffered severely; there was great loss of

flesh, color and strength; sleep became very poor, being disturbed by pain, and also by painful contractions of the flexors of the lower extremities. During several months previous to my first seeing her, these contractions were especially severe. There was tenderness over one point of the lumbar spine, but no evidence of spinal disease. The habit of using morphia freely had existed for a considerable time. On admission to the University Hospital, October 23, 1877, the disease having lasted six years, Mrs. S. was almost entirely helpless, at the age of thirty-four. She was confined to her chair, being entirely unable to straighten herself or to stand. There were stiffness and impaired motion of the cervical spine. There were excessive pain and tenderness of the affected joints, all of which presented the most characteristic changes and deformities of rheumatoid arthritis. These consisted of swelling and deformity; within some a moderate amount of effusion in the synovial sacs, and in others stiffness or firm ankylosis; lesions of the synovial membrane and articular cartilages as shown by crackling and crepitus on motion; and, finally, new bony formations around the margins of the affected joints. There was advanced wasting of the muscles nearly all over the body. An imperfect response was given to faradic currents. Pain was extreme, and although her endurance was heroic, the nervous system was considerably disturbed. There were extreme pallor and marked emaciation, the weight being only 104 pounds. Not only were the legs immovably fixed, but the arms were likewise crippled so that she could not feed herself; and the hands were entirely useless. The contractions of the legs, already noted, were very marked and painful. They came upon her frequently and without any cause, although effort would always provoke them. Owing to the stiffness of the knee-joints they did not cause very much drawing of the legs upward, but the flexor muscles could be seen or felt to contract in a sudden spasmodic manner, and then to soon relax more slowly and irregularly. In addition to these large muscular contractions, sudden jerking movements of the fingers were noticed. Even those which were dislocated in consequence of the articular changes, would be suddenly seized with jerking, and would shake rapidly

and uncontrollably. Fibrillar contractions of the muscles of the hands and of the forearms had been noticed for a year past.

Her diet was very carefully regulated, and she was encouraged to take largely of light nourishing food, in addition to considerable amounts of milk.

A pill of nitrate of silver, gr. $\frac{1}{4}$, extract of opium gr. $\frac{1}{4}$, extract of belladonna gr. $\frac{1}{8}$, t. d. p. c., was ordered. Dailyunctions of oil, with massage of the whole muscular system, and systematic manipulation of all the affected joints, were faithfully kept up.

Mechanical appliances were devised to gradually break up the adhesions of the larger joints, and arrangements were made by which, as soon as a little movement in any joint was secured, systematic exercise of the muscles attached, could be maintained. The muscles were carefully and gently faradized.

In the course of a month there had been considerable improvement. The appetite was better, and she had commenced to gain much flesh. There was less tendency to exacerbations, and her pain was diminished, so that she could sleep fairly well without morphia and with diminishing doses of opium in her pills. The joints had yielded to manipulation better than seemed possible, so that movement was returning in many of them, and their enlargement was diminishing. The muscles responded better to electricity. Spasmodic contractions of the legs at night continued, but this was relieved by bromide of potassium. She began to take dialyzed iron about December 1st, and took it for many months; it was impossible, however, to give it to her in larger doses than fifteen to twenty drops, thrice daily, for when increased beyond this it caused looseness of the bowels. She took 40 grains of nitrate of silver continuously, then stopped it for several weeks, and resumed it, taking 15 grains more; and this she repeated until she had taken in all about 75 grains while at the hospital. Her improvement was slow but steady; by February 1st her weight had increased to 114 pounds. Marked improvement had occurred in the power of motion, and in the anatomical condition of the joints. She became able to help herself in many ways, and finally to walk about with the assistance

of the Darrach wheeled crutch. She left the hospital in the summer of '78, to return to her home, where the same treatment was to be carried out.

By December 15, 1879, her weight had increased to 140 pounds—a gain of fully 36 pounds since she first came under my care.

She was almost free from pain; her functions were all well performed, and there was great improvement in the mobility and power of motion of nearly all the joints. She was able to walk considerably with the apparatus named, and could also run a Howe's sewing machine herself. Massage and inunctions had been steadily continued, and faradization had been used occasionally.

She had been taking dialyzed iron constantly for over two years, and since leaving the hospital had used 75 grains of the nitrate of silver in the course of eighteen months, making 150 grains in all. While some of the joints remained ankylosed, or distorted, in consequence of the advanced lesions that had been developed previous to her coming under my care, it may safely be said that the improvement in this interesting case was most gratifying and encouraging.

In these cases, and so in all similar cases, where I have succeeded in effecting any material relief, one of the most important, or probably the most important element in the treatment has been systematic daily manipulation. This includes persistent movement of all the affected joints, excepting those where ankylosis has been allowed to become so firm that any motion is impossible. But even when complete immobility has apparently been established, I have frequently been surprised to find that vigorous efforts have restored some measure of usefulness to the part. In the case of joints where the inflammation presents a very acute stage, attended with rapid swelling and decided heat and redness, it is proper to await the subsidence of this severe irritation before instituting regular manipulations; but the delay need rarely be long. Of course such manipulations are excessively painful, and must be conducted daily without anaesthesia. Still, so highly important do I consider this treatment, and so excellent are the results often obtainable by it, and by it alone, in cases which

otherwise would pass steadily into more and more settled helplessness, that I feel no hesitation in appealing, and always with success, to the patient to undergo it thoroughly and persistently. Where the tendency to contraction, deformity and ankylosis is too great to be overcome by ordinary manipulation, suitable apparatus may be contrived to assist in overcoming it, as was done in Case 7.

I would beg to repeat, then, that in rheumatoid arthritis, from an early to a late stage, despite the pain occasioned by such manipulation, I consider the most essential part of treatment to be the systematic daily movement of the affected joints, combined with thorough massage of all the muscles whose functional activity is impeded and impaired. It is not, indeed, alone the maintenance of the mobility of the joints that is arrived at in such treatment. the circulation of the tissues around the joints is stimulated, and the tendency to absorption of the exudation is increased. The nutrition of the muscles is maintained, and the atrophy of their tissue, that we have all had occasion to note as among the most serious results of this form of joint disease, is as far as possible obviated. But in addition to all this, there seems every reason to believe that in this affection, as in nearly all cases of chronic rheumatism also, there is an underlying impairment of the tone and activity of the skin which is the strongest predisposing cause. There is no way in which this can be improved so well as by systematic manipulations and frictions, accompanied by the use of suitable baths, or by inunction with a vegetable oil. In feeble, anæmic rheumatic patients, where even hot salt baths of very short duration may be badly borne, or, on account of the crippled joints, may be inconvenient, the thorough daily inunction of the whole surface with pure olive or cocoa oil has for a number of years been a favorite practice with me.

In many such cases change of residence, and, if possible, change of climate is extremely beneficial. The diet nearly always requires close attention, and, as a rule, it is necessary to arrange it so that a much larger quantity than formerly shall be taken of simple, wholesome food, which is often best done by adding two or three pints of skimmed milk per diem to the regular diet.

It has long been recognized that patients with rheumatoid

arthritis usually present an anæmic condition, and that nutrients and alterative tonics produce better results than any specific remedies, such as iodine, iodide of potassium, or guaiacum, etc. Of all tonics, iron in very large doses has proved by far the most valuable in such cases, and in unusually large amounts it forms an almost invariable part of my treatment of rheumatoid arthritis.

In many instances, especially where there has been marked pain extending along the nerve trunks, and perhaps associated, as often happens, with considerable disturbance of the nervous system, the prolonged use of nitrate of silver, with or without minute doses of opium and belladonna, has seemed to exert a favorable alterative effect. There is a constant temptation to resort to the anodyne use of opium in some form, but it need scarcely be said that this should be resisted most uncompromisingly, since there is scarcely any disease in which the opium habit is more readily acquired, more injurious in its effects and more difficult to break off. Local applications (veratria, aconitia, chloroform) or counter-irritation (iodine, small blisters, various mechanical irritants, or, finally, the constant galvanic current) may afford relief to pain.

It is not, of course, intended to say that other drugs are not called for in many cases. Cod liver oil and arsenic may supplant iron in cases where the latter constipates too persistently. Iodide of potassium with minute dose of bichloride of mercury, may replace or alternate with the use of nitrate of silver. Long continued courses of lithia, as a substitute for all drugs of this latter class, have proved serviceable, especially in cases attended with acid dyspepsia and the uric acid diathesis.

Electricity has been alluded to as a means of relieving local pain, but its systematic use enters as an essential part into the treatment of every case—not only for its effect on the muscles, but on the superficial circulation over affected joints, and on irritated or inflamed nerve trunks.

Lastly, a most rigid attention to hygiene is essential, including dress, exercise, avoidance of draughts and damp, etc.

This very hasty and imperfect sketch shows clearly enough the well-known truth, that it is not on any one drug or combination of drugs that we are to rely in the treatment of rheumatoid

arthritis any more than in other chronic diseases ; but that it is only by a thoroughly organized systematic plan of treatment, including hygiene, gymnastics, dietetics and therapeutics, that any success can be obtained. I would beg to emphasize the leading indications in ordinary cases of rheumatoid arthritis, as follows :

To remove the cause—having special regard to residence, soil, moisture, etc.

To maintain at all hazards the mobility of the joints.

To exercise the muscular system.

To restore and maintain the tone of the skin.

To improve the blood and nutrition.

To quiet the pain as far as possible by local means.

To modify the articular inflammation (and that of the adjacent nerve trunks when it exists) by counter-irritation, electricity, and the internal use of alteratives.

It may well be questioned whether such treatment can be successfully carried out under ordinary conditions of home life ; and it cannot be doubted but that, for the maintenance of perfect regularity and system in each detail, as well as on account of the skilled attendants and special appliances required, it is generally preferable that such patients should be treated at a suitable institution.

I have spent so much time on the subject of rheumatoid arthritis, that it is not possible to more than glance at some additional practical points in regard to ordinary chronic rheumatism. In the first place, it is clear that in many cases of articular trouble, systematic motion would be injurious, and absolute rest must be enjoined. Here it seems to me better, not merely to allow the patient to lie in bed, trusting that the limb may be kept comparatively quiet, but to apply either a plaster bandage or a carefully adjusted splint, so as to secure absolute rest conjoined with carefully graduated pressure. The cases that call particularly for this complete rest seem chiefly to be those where the arthritis is very acute and painful, and older cases where there is a considerable amount of liquid effusion in the synovial sac. In the latter cases, no danger of ankylosis exists, and, moreover, the distended and weakened synovial membrane is irritated

anew by any strong manipulation or extended movements. In fact, I should be inclined to say, that just in proportion as liquid effusion exists in a diseased joint, is passive movement or active exercise undesirable; while in proportion as the joint is free from such effusion, and presents, instead, thickening, stiffness or adhesions, is manipulation (of course, carefully graduated by the activity of the inflammatory process and the sensitiveness of the part) advisable.

As illustrating the excellent results obtained in chronic rheumatic synovitis and arthritis from rest and pressure, combined with nutrient and alterative treatment, the following case may be cited:

CASE 9.—Mr. S., æt. 65, farmer, from Susquehanna county, Penn., was admitted to the University Hospital in 1878. In consequence of working in a damp district, with constant exposure to hard toil, he became gradually crippled with chronic rheumatic inflammation of both knee joints. The shoulders were also affected, but to a less degree. After trying numerous modes of treatment at home and at neighboring mineral springs during the course of several years, and finding that he was growing gradually worse, he went to the Hot Springs of Arkansas, where he used water and baths faithfully, but steadily grew worse, so that he was entirely confined to his bed for several months before being brought to the University Hospital. He was greatly emaciated, anæmic and feeble. The appetite was poor and digestion torpid. He was exquisitely sensitive to the least changes of weather, to draughts and damp, so that in every way he presented the highest degree of atony of skin and general system. The shoulder joints were stiff and painful on movement, but there was no liquid effusion therein. Both knee joints were enormously distended with liquid, so that the legs were in slightly flexed condition, and the least attempt at motion caused extreme pain. The synovial membrane was thickened and crackled when moved, and there was some infiltration of the surrounding tissues. The muscles were wasted and flabby. It was impossible for him to stand for a moment even with help of two canes or crutches.

He was kept in bed strictly. The knee joints were enveloped with plaster bandages, which were changed as frequently as the

diminishing size of the joints rendered them at all loose. Manipulation of the shoulder joints and thorough massage of the whole surface and muscular system, with inunction, were employed daily. A carefully regulated diet was directed, and he was encouraged to take very full amount of simple, wholesome food. At first he took quinia, strychnia, and muriatic acid, but as soon as the tone of his digestion improved, he was put on very large doses of dialyzed iron, with full doses of Donovan's solution, and later of KI. and Hg.Cl.₂. Very gratifying results followed this treatment. He quickly regained use of the shoulder joints. The effusion in the knee joints steadily subsided, and in the course of three months was so far gone that passive movements were well tolerated. He gained twenty pounds of flesh, improved in color and strength, and in power of resisting changes of weather, and ceased to have exacerbations of pain. He became able to walk with crutches, then with a cane, and before he left the hospital could walk unaided. The muscles of the limbs were developing satisfactorily, and there was every prospect of complete recovery.

I have alluded to the fact that in this instance the thorough use of mineral baths and waters had failed entirely to afford relief, but there are many cases where the proper use of these powerful agents gives us the best possible results. Judging from my own experience, I should say that the cases best adapted to their use are those where the system is not yet too far reduced, so that the power of reaction is not too feeble. It is indeed upon their power of developing reaction, and thus inducing more vigorous circulation and more healthful secretory activity of the skin, that mineral baths depend for their value in the treatment of rheumatism. It is evident, therefore, that they are to be regarded only as adjuvants, and that at the same time a most careful dietetic, hygienic and medicinal treatment must be carried out. It is largely owing to the universal neglect of this treatment at all American springs that such frequent disappointment awaits rheumatic patients who resort to them for relief. It is not difficult, however, to institute a suitable system of bathing at home, by which many of the good results of this important element in the treatment of chronic rheumatism may be obtained.

We have as yet but little positive knowledge in regard to the essential nature of rheumatism or of gout. All are agreed in regarding acute inflammatory rheumatism as a constitutional disease, although the widest diversity of opinion exists as to its true causes. So, too, there can be no doubt that in many cases of chronic rheumatism, there is the same constitutional disturbance which has assumed the chronic form, either from a repetition of acute attacks or from some peculiar modifying condition that has rendered it chronic from the outset. In such cases there probably exists some defect of primary assimilation or in the action of the great emunctories—liver, kidneys and skin. It is in consequence of this that in so many cases of true chronic rheumatism, great benefit is often derived from careful dietetics—such articles as close observation shows to be digested and assimilated with difficulty being restricted in amount or entirely prohibited. In whatever manner chronic rheumatism may have originated, nothing is more interesting and important than the part which the skin plays in keeping up the skin. So relaxed does the tone of the skin become under the influence of repeated attacks of acute rheumatism, or from unfavorable hygienic conditions, that, finally, the most trifling atmospheric changes, a momentary exposure to draught while the body is heated, or many other similarly slight causes, suffice to check the circulation and secretion of the skin and to induce an increase of rheumatic suffering. It would appear, therefore that any plan of treatment of chronic rheumatism which does not include a most careful attention to the state of the skin must, of necessity, fail in effecting a permanent cure; and clinical experience thoroughly confirms this view. The requirements of individual cases must determine the precise character of this part of the treatment (whether by dry friction, inunction, cold or hot sponge-baths or douches, medicated baths, etc.); but it is sufficient now to request your attention to this as, perhaps, the most important element—though only one of several elements—in the truly curative treatment of chronic rheumatism.

I have thus far made scarcely any allusion to the large group of valuable remedies—mostly of an alterative character—that have acquired reputation in the treatment of chronic rheumatism.

It is true that in no case of this kind can we afford to depend solely on the use of any of these remedies, to the exclusion of baths, massage, diet, hygiene, it is no less true that in nearly every case there are indications that call for the use of some one or more of them. It would be impossible to discuss at length the merits of the very numerous remedies of this class, so that I must limit myself to the bare mention of those which have proved most valuable in my own experience.

In cases of chronic rheumatism limited to one or a few joints with considerable effusion, I have used the following with advantage:

℞

Potassii iodidi, ʒ ij.
Hydrargyri bichloridi, gr. j.
Syrup. sarsæ comp., ʒ v.
Ft. sol. S. Teaspoonful in water after meals.

or:

℞

Hydrargyri bichloridi, gr. j.
Inf. gentianæ comp., ʒ vij.
Ft. sol. S. 1 to 2 teaspoonfuls in water after meals three times daily.

In cases where a number of joints are involved with marked tendency to exacerbations, and especially if the lesions of the small joints indicate gouty complications:

℞

Pulv guaiaci, ʒ j.
Vin colchici radicis, ʒ ij. to ʒ iij.
Potassii iodidi, ʒ j.
Pulv acaciæ, q. s.
Sp. lavendulæ comp., ʒ ss.
Aq. cinnamomi, q. s. ad ʒ vj.
Ft. sol. S. Dessertspoonful three times daily in water.

The bicarbonate or the acetate of potash may often be substituted with advantage to the digestion for the iodide of potassium in the above mixture. I have already alluded to the use of prolonged courses of lithia as being very beneficial, especially in cases with a gouty element and with defective action of the kidneys. In regard to the mode of its administration, I much prefer the effervescing granulated salts.

I must also mention the benefit I have derived from the prolonged use of carefully increased doses of Donovan's solution. It

is to be remembered that these alteratives have, for the most part, been given while the patient was also taking iron in large doses, cod liver oil, syr. hypophos. comp., or some similar nutrient.

I will merely mention again the nitrate of silver as an alternative, from which I think I have obtained good results, especially in cases attended with neuritis and with marked nervous symptoms.

TREATMENT OF SPRAINS.* By R. DACRE FOX, F.R.C.S., Edinburgh. Surgeon to the Manchester Southern Hospital; Chief Medical Officer to the Manchester, Sheffield and Lincolnshire Railway Company, etc.

The frequency with which sprains occur in general practice, and the somewhat unsatisfactory results of the treatment ordinarily adopted, induce me to bring forward a method that I have used in a great many cases with considerable success. Sprains may be broadly divided into two kinds, mild and severe; the former consisting merely of a temporary overdistension of the parts around a joint, which rest and anodyne applications usually soon cure; the latter involving, as I believe, much more serious pathological results, which the following plan is specially contrived to obviate.

The effects of a severe sprain are, that the fibrous ligaments controlling the movements of the joint and binding the tendons in their grooves become overstretched, swollen and softened; the cellular tissue about the ligaments and in the tendon-grooves becomes oedematous; and plastic material is exuded; while, as a consequence of these changes, the tendons are displaced in their beds. If this condition be not actively treated, it may, and often does, lead to continued lameness, due, in all probability, partly to a diminution in the caliber of the tendon-groove, with impaired muscular action, and partly to the torn ligaments and bruised cellular tissue having undergone changes which render them incapable of adapting themselves to the movements of the

* Abridged from a paper read before the Lancashire and Cheshire branch.

joint, which are consequently impeded. I believe this result may be prevented by the application of firm direct equal pressure, applied manually at first, and kept up and controlled by pads placed in the line of the tendons, and kept in position by properly shaped plasters and bandages, and sometimes by splints. This pressure helps to disperse the œdema, to replace the tendon in its normal position, to hasten the absorption of any plastic exudation, and thus to prevent diminution in the caliber of the tendon-groove. I cannot say this is a novel method of treatment; but I think it is one not usually practiced, partly because it entails the expenditure of much time and trouble, and partly, I feel sure, because there is and has been a tendency to underestimate the inconvenience and distress arising from a badly sprained joint.

The common practice, in treating a sprain, is to put on a bandage, telling the patient to take it off if the joint becomes painful, and to substitute warm water fomentations. When the swelling has subsided, if the injury be not so slight as to be already cured, a liniment or the application of iodine is generally ordered. Very frequently the tight bandage causes inflammation, while the rubbing and painting are practically useless. There are numbers of cases of slight sprain, indeed, which will get well with comparatively little treatment or none at all; but in that more severe form where, after an inflammatory or at least exceedingly hyperæmic stage, swelling takes place, with the results I have described, the application of these remedies does not prevent the joint from being left rigid, painful and unfit for use for a very long period. Now it is, as I have said, in preventing all this, that the plan of treatment by direct, equal and continuous pressure will be found exceedingly valuable; for, where it has been properly carried out, I have always found that the joint returns quickly to its normal condition—pain being speedily relieved, and rigidity prevented. The treatment may be divided into two stages; the first lasting from a day to a week or longer, during which the treatment has to be directed to averting inflammation by rest, warm applications, anodyne lotions, etc.; the second commencing when the joint has become cold, swollen and painful on movement—in fact, when the injury has

assumed a more or less chronic character. It is during this second period that I believe the active treatment I advocate ought to be employed. It is important not to commence this until the surface-heat is normal; for undoubtedly, when any tendency to inflammation exists in the tendon-sheath, pressure aggravates it, and I have known it to lead to untoward results.

It is of course impossible, within the limits of this paper, to describe the special adaptation of this method to each joint; but I will take as an illustration the ankle. If a wire be passed round the joint so as to impinge on the two malleoli and the tendo Achillis, it will define three or four well-marked hollows: one on each side of the tendo Achillis behind each malleolus, one in front of the fibula, with a fourth shallower one in front of the tibia. When the ankle is severely sprained these fossæ become obliterated, and are filled up with effusion, overstretched ligaments and displaced tendons.

Observation has led me to believe that there are very few sprained ankles in which muscular displacement to some degree does not take place. It most commonly occurs in front of the outer malleolus, involving the outer part of the annular ligament, the extensor longus digitorum, and the anterior fasciculus of the external lateral ligament; next, perhaps the posterior peroneo-tarsal ligament and structures behind the external malleolus. Cases of similar overstretching and displacement on the inner side of the ankle are happily rare; but in gravity they bear much the same relation to the former as a Pott's dislocation does to a simple fractured fibula. I will assume an ankle-joint has sustained a severe sprain all round, and has arrived at the chronic stage; modifications of the treatment of such a case will meet all that are likely to occur. To carry out the first principles of treatment by direct, equal and continuous pressure, it is clear the fossæ mentioned above must be filled, or rather their sites covered by pads so as to cause the retaining plasters, bandages and splints to exercise equal pressure everywhere. By making pressure with the thumb from below upwards in the line of the fossæ, a good deal of the œdema may be squeezed away and the displaced tendons in some degree restored. I make, as a rule, five pads (of tow and lint or leather): two about four

inches long by one inch wide (one a little shorter than the other, so as to be better adapted to the curve extending upward from the dorsum of the foot to the crest of the tibia); another shorter, broader and thinner, to place over the tibialis anticus and extensor proprius pollicis; and two, three or four inches long and bolster-shaped, to fill in the posterior fossæ on each side of the tendo Achillis. It is often advisable, in old-standing cases, to supplement the pads by strips of plaster to ensure firmer pressure. Both pads and strips of plaster should be made exactly to fit, as, if too large, they are useless, from the pressure being too diffused; and, if too small, they exercise too little pressure. A moment's consideration will render this obvious. If too large a pad, for instance, be placed over the outer postmalleolar fossa, its edges rest on the tendo Achillis and outer malleolus like the piers of an arch, leaving the fossa itself untouched. To keep these pads in their place, I use a long extended half-moon-shaped piece of plaster (*emplastrum saponis* spread on leather), long enough for the ends to overlap in front when the heel is placed in the center, and a narrow oblong piece above this, placed round the lower part of the leg, to cover the upper part of the pads. The handiest way to apply the pads is to place an India-rubber band above the ankle, to slip the pads under it, and then, planting the heel in the center of the curved plaster, to bring the two ends across the front of the joint so as to overlap. The pads having been secured in position, the elastic ring is to be cut, and the oblong piece of plaster put on so as to encircle their upper ends; lastly the whole ankle is to be firmly bandaged. Amongst the working classes, or in the case of an uncontrollable patient, it is advisable to apply two thin splints over the anterior pads, keeping them in position by a long strip of adhesive plaster. Where there is much superficial ecchymosis, where there are bullæ or where there is unhealthy-looking skin, instead of using soap-plaster, the pads may be kept in position and pressure maintained by a piece of lint on which ointment has been spread. Calamine ointment made stiffly is clean, and not uncomfortably greasy. If, as occasionally happens, even this should cause irritation, warm wet lint covered by oiled silk may be advantageously used over the pads, and secured by a firm bandage; but

neither of the applications can compare in efficiency with the soap plaster spread on leather.

It is, as I have said, impossible in the limits of this paper to describe the method of adaptation of the pads to all the different joints; but a very little consideration will suggest the shape, size and thickness necessary to be employed in each case.

ON WASTING OR "SIMPLE ATROPHY" AS IT OCCURS IN
YOUNG CHILDREN FROM INSUFFICIENT NOURISHMENT. By
LOUIS STARR, M.D., Physician to the Episcopal Hospital,
and Assistant Physician to the Children's Hospital, Philadel-
phia.

Cases illustrating the ill effects of an insufficient supply of food, or of food which, though abundant, is unsuitable in quality, are of frequent occurrence among the out-patients of the Children's Hospital. The condition produced is either one of simple wasting, or of wasting combined with symptoms denoting irritation of the gastro-intestinal canal.

Simple wasting is, I think, most frequently seen in children who have been nursed at the breasts of feeble or overworked mothers, in whom the milk is often both scanty and of poor quality. The symptoms are sufficiently characteristic. There is a gradual loss of plumpness, the muscles grow flaccid, and there seems to be an arrest of growth. The face is pale, the lips pale and thin, the skin harsh and dry or too moist, and the anterior fontanel level or slightly depressed. The temper is usually irritable. When nursed, the child first seizes the nipple ravenously; then, if there is little milk, he quickly drops it, to cry passionately, as if disappointed at not being able to satisfy his hunger; but if the milk is abundant, though thin, he will lie a long time quietly at the breast. The bowels are inclined to constipation. The physical signs connected with the chest and abdomen are negative, and no indication of disease of any special organ of the body can be detected.

Wasting associated with symptoms of gastro-intestinal irritation is more common, and is met with chiefly in infants who are

hand-fed. Resulting in the main from an improper diet, it is often encountered where farinaceous food is employed to the exclusion, in great part, of milk; where an infant is allowed or encouraged to bolt bits of table-food and drink tea, and particularly, so far as my experience goes, where the variety of feeding-bottle lately become so popular is used. These bottles have, in place of a plain gum nipple, an arrangement of fine glass and rubber tubing: the glass tubing extending quite to the bottom of bottle, the necessity of holding the latter and keeping it at a proper angle in feeding is avoided. This seeming advantage is counterbalanced by the minor disadvantage that the child, left to itself, is apt to continue suction long after the bottle is exhausted, and by the great disadvantage that the tubing can never be kept clean. During my last three terms of service at the Children's Hospital, it has been my rule to ask for the bottle of every hand-fed infant presented for treatment, and scarcely a day has passed without my seeing several of the bottles referred to. In almost every instance, notwithstanding the most careful and frequent cleansing, the contained milk had a sour odor, and was filled with small curds, while in cases of carelessness the odor was intolerable and the interior of the tubing was encrusted with a layer of altered curd. In bottles provided with a simple nipple, on the contrary, the milk was nearly always perfectly sound and the nipple itself clean.

As there is little difficulty in keeping the bottles themselves clean, there can be only one reason for this difference, namely, in the old-fashioned instrument the nipple is easily removed and as readily inverted and thoroughly cleansed, but in the other there is no way of thoroughly cleaning the twelve or more inches of fine tubing; it cannot be inverted, and the passage of a stream of water or of a small stiff brush can only imperfectly remove the milk clinging to the interior; this, of course, soon undergoes decomposition, and quickly inaugurates change in the next charge of milk placed in the bottle. It is evident that a constant supply of milk thus rendered acid and partially curdled must, like an excess of farinaceous or other unsuitable food, produce irritation of the mucous membrane of the alimentary canal, interfere with

the processes of nutrition, and lead to a state in which the features of wasting and disordered digestion are combined.

The following case is a very typical example of this condition :

James —, æt. three weeks, a foster-child, was brought to the dispensary of the Children's Hospital on April 1, 1879. His nurse stated that he had been in her charge for two weeks, and that he had been sick the whole of this time. The symptoms which arrested her attention were gradual wasting, great restlessness, with frequent prolonged paroxysms of screaming, and redness and excoriation of the skin in the neighborhood of the genitals and anus. He had been fed upon milk diluted with water, the food being given from a nursing-bottle fitted with the combination of glass and rubber tubing.

At the date of application the child was puny, his surface generally was pale and moist, the muscles were flabby, and there was severe intertrigo of the scrotum, groins, perineum, and inner side of each thigh. His mouth felt hot, the mucous membrane was redder than normal, and the tongue and palate were covered with small patches of thrush. He took his food almost ravenously. There were frequent eructations of sour-smelling, partially-coagulated milk, and the bowels were somewhat constipated. Paroxysms of screaming occurred at short intervals, and greatly disturbed his rest at night; during these paroxysms the legs were drawn upward and moved about uneasily, the feet were very cold, and the abdomen was distended and hard. The heart and lungs were healthy, and the urine was voided freely.

The nursing-bottle was examined. The glass tube which extended to the bottom of the bottle was lined with curd, and a quantity of milk remaining from a supply placed in the bottle about an hour before was sour and contained numerous small curds. This change, it was stated, often occurred, in spite of much care taken to keep the bottle and tubing clean.

Directions were given to substitute a soft india-rubber nipple for the tubing, to keep both the bottle and nipple thoroughly clean, to wash out the child's mouth with cold water after each feeding, and to use a food composed of one part of barley-water to two of milk, with the addition of a tablespoonful of lime-water to each half-pint. Small doses of bicarbonate of sodium, with

peppermint-water, were prescribed every three hours. The nurse was also ordered to rub half a teaspoonful of warm olive oil into the skin of the abdomen twice daily, to anoint the surface involved in the intertrigo with oxide of zinc ointment, and to keep the feet warm by frictions with the hand.

The improvement under this treatment was rapid. On April 11 (the day of the last visit) his mouth was cool and free from thrush; there was little eructation; the bowels were natural; there were no more attacks of colic; the sleep was undisturbed; the child had begun to gain weight; and the intertrigo was very much better.

In other cases the symptoms are much more grave. The emaciation progresses to an extreme degree; the skin becomes dry, yellowish and harsh, and hangs in loose folds over the bones—and this, although a large quantity of food, such as it is, may be consumed. The combination of great wasting with a voracious appetite is very striking, and is only apparently contradictory, since hunger—the demand of the tissues for reparative material—cannot be appeased by food which, from its bad quality, is incapable of digestion or proper preparation for absorption and assimilation; unsuitable food, too, by irritating the mucous membrane of the stomach, creates a fictitious appetite.

Wasting children sometimes have what are termed "inward spasms." When these spasms occur, the upper lip becomes livid, somewhat everted, and tremulous, the eyeballs rotate or there is a slight squint, and the fingers and toes are strongly flexed. They frequently usher in true convulsions.

These "inward spasms," together with restlessness and irritability of temper, are ordinarily the only indications of involvement of the nervous system; but in a child who recently came under my notice there was a train of very misleading nervous symptoms. The notes are as follows:

Philip —, 15 months old, of Irish parentage, became an out-patient at the Children's Hospital on April 9, 1880. He was the youngest of five children, all of whom are living and healthy. His father had suffered greatly from rheumatism, and his mother, who brought him to the hospital, looked pale and worn, though

she stated that she never felt ill. The child had always been fed at the breast, dentition had progressed regularly, and his health had been good until five days before the date of application, when it was observed that he was more pale than usual, that his movements were more feeble, and that there was a tendency to retraction of the head.

When first seen, his skin was pale, the temperature to the hand was normal, and upon drawing the finger-nail over the surface the *tache cérébrale* could be faintly produced. His face was listless in expression, the veins of the forehead were distended, and there was marked and rigid retraction of the head, any attempt to move it forward causing cries of pain and being resisted by the contracted cervical muscles. The muscles generally were soft and relaxed. The anterior fontanel was open and was natural in appearance. The tongue was very lightly frosted; there was no indication of pressure upon the gums from an approaching tooth; he took the breast greedily, and his bowels were moved once or twice daily, the stools being perfectly healthy. There was no alteration in the condition of the abdomen. On physical examination the lungs and heart were found to be healthy, though there was a trifling loose cough; the pulse was regular, and slow considering the age of the child, the beats ranging between 80 and 90 a minute. While resting in his cradle, he took little notice, so his mother stated, of what passed in the room about him, but occasionally moved his head restlessly on the pillow and uttered several low, fretful moans. Any attempt at movement, as lifting him up to nurse, was attended by crying.

He was ordered two grains of bromide of potassium, with half a grain of iodide of potassium, in camphor-water four times daily.

On April 12, being too ill to be brought to the hospital, I visited him at his home. I found him in a moderately clean room, in a healthy quarter of the city. He rested passively in his cradle, his head bent backward, his eyelids half closed, his thighs drawn up towards his belly, his arms bent at the elbows, and his hands held up under his chin. There was evidently greater prostration, more wasting, and a nearer approach to stupor. The skin was pale and cool; there was no eruption or

maculation; the eyes were sunken and the fontanel somewhat depressed. The breathing was regular, and the pulse was slow and regular, but compressible. The belly was natural in shape, and soft; the tongue was slightly coated; the bowels were moved two or three times daily; there was no vomiting, and the appetite was good. In order to test his capacity for feeding, his mother was directed to put him to the breast; the child began to whimper as soon as he was moved, but when the nipple touched his lips he quickly seized it, made several forcible efforts at suction, and then dropped it with a cry as of disappointment. The breasts were examined and found to be small and flabby, and to contain little or no milk. This discovery suggesting an alteration in the diet, directions were given to feed the child chiefly upon cow's milk, and to reserve the breast-milk for the night. An attempt was also made to increase the flow of the latter by advising an improvement in the mother's dietary. The bromide of potassium mixture was continued.

On April 14 the symptoms were still more serious. When closely questioned, the mother reluctantly admitted that she had not fed her baby as ordered, having no means of procuring milk, and further that, her husband having been out of work for several weeks, her own food had been reduced to a very moderate allowance of bread and tea. In consequence the flow of milk had gradually failed, particularly so during the preceding two days, the knowledge of her child's wants and her total inability to supply them producing an exceedingly nervous, despondent condition, and increasing the effect of the starvation diet.

She was readily put in the way of obtaining substantial relief, and after some trouble reassured and persuaded to persevere in the care of her baby. Improvement began simultaneously with the administration of food; the partial stupor, the retraction of the head, and the depression of the fontanel soon disappeared; the little patient began to gain flesh and color, and his muscles became more firm. The bromide of potassium was stopped, and two drops of the syrup of the iodide of iron were given three times daily.

On April 30, the date of the last visit to the hospital, conval-

escence was thoroughly established. On September 21 the child was in good health.

In this case the retraction of the head, the boring of the head into the pillow, the peculiar decubitus, the general hyperæsthesia, the semi-stupor, the marked prostration, the slowness of the pulse, the tache cérébrale, and the vomiting suggested the existence of tubercular meningitis; but this opinion was reserved on account of the absence of many characteristics of the disease. Thus, the open fontanel was level; the belly was natural in shape; the bowels were the reverse of constipated; the respiration and pulse were regular; and there was no hydrocephalic cry. Furthermore, no account could be obtained of an initial stage of slowly-failing health, and in other respects the course of the illness was different from that of the suspected disease. At the same time, the idea of such symptoms being due to partial starvation was not entertained until they began to disappear almost immediately upon an increase in the quantity of food. Taking a retrospective view, however, it is easy to refer the anomalous symptoms to an intensely excitable nervous system—a condition depending upon insufficient nourishment, and differing merely in degree from that leading to the “inward spasms” already referred to.

In a paper on “Starvation Fever,” recently read by Dr. Da Costa before the College of Physicians of Philadelphia, three cases are detailed in which a still different set of symptoms were noted.

The first case, a girl aged three years, had frequent vomiting, great weakness, giddiness, a feeble and rapid pulse, fever, and loss of vision. Death took place on the thirteenth day.

The second, a pallid, badly-nourished boy four months old, had repeated convulsions and a petechial eruption. Death occurred at the end of twenty-four hours.

A post-mortem examination was made in both instances, and, besides minor alterations, the gastro-intestinal mucous membrane was found to be pale and thin, and there was an effusion of serum into the pleural sacs.

The third patient, a feeble girl of three and a half years, had fever, followed in a short time by bronchitis, which subsequently

ran into broncho-pneumonia. Recovery took place on quinine and a supporting treatment. The bronchitis and broncho-pneumonia undoubtedly depended only indirectly on the starvation, which, by leading to weakness and ill health, rendered the child very susceptible to the ordinary causes of catarrh.

In the treatment of wasting from insufficient nourishment the first thing to be attended to is the diet. Without entering at length into this subject, it may be stated, as a general rule, that in selecting a diet the object should be to fix upon one which is suited to the age and digestive powers of the child, so that he may be able to digest, and therefore be nourished by, all the food consumed.

At the hospital I have found that children under twelve months, who have to be either partially or entirely "brought up by hand," ordinarily do well upon cows' milk with lime-water or with barley-water. The food should be administered from a bottle capable of holding half a pint, made of colorless glass, so that the least particle of dirt may be readily seen, and provided with a soft india-rubber nipple. The whole quantity of food intended to be given in a day should never be prepared at once, but each portion should be made freshly and separately at the time of administration. Thus, a bottle such as described, as nearly absolutely clean as possible, may be filled with a mixture of one part of lime-water to two or three of sound milk, or with one part of barley-water to two or three of milk, to which may be added from one to four teaspoonfuls of cream and one or two lumps of cut loaf-sugar; the nipple (also perfectly clean) is next applied, and the bottle placed in hot water until the contents become warm, when it is ready for the child.

The degree of dilution of the milk and the proportion of cream added vary, of course, with the age. Lime-water is used as the diluent when there is frequent vomiting or acid eructation, barley-water* when it is desired to prevent the formation of a large compact curd.

After the digestion has been brought into good condition by such a diet, the food may be cautiously increased to the point

* Barley-water is made by putting two teaspoonfuls of washed pearl-barley in a pint of water, boiling down to two-thirds of a pint, and straining.

suitable for a healthy child of the same age : for instance, at eight months from two to four fluid ounces of thin mutton- or chicken-broth, free from grease, may be allowed in addition to the milk ; at twelve months the yolk of a soft-boiled egg, rice and milk, and carefully-mashed potatoes ; and after sixteen months a small quantity of finely-minced meat.

Once daily the patient should be bathed in warm water, or, at least, sponged over with warm water, and every morning and evening a teaspoonful of warm olive oil or of cod-liver oil should be gently rubbed into the skin, especially of the abdomen and chest. At the same time the belly should be completely covered with a soft flannel binder, and the feet kept warm. In this way attacks of colic, if not entirely prevented, are rendered much less frequent and severe.

When there is intertrigo, cleanliness and the free use of oxide of zinc ointment usually suffice to effect a cure.

Of medicines, bicarbonate of sodium, pepsin and cod-liver oil are, perhaps, most useful. Cod-liver oil should not be given until the digestive powers have been brought into a comparatively normal state by proper food, antacids and digestants. It seems to be most easily borne when given in emulsion, and may be advantageously combined with lacto-phosphate of lime or with the hypophosphites.

Such symptoms as constipation and diarrhœa demand, of course, appropriate treatment.—*Phila. Med. Times.*

THE TREATMENT OF ASTHMA. By J. B. BERKART, M.D., Senior Assistant Physician to the City of London Hospital for Diseases of the Chest, etc.

Not unfrequently the treatment of the paroxysms is of necessity limited to the exigencies of the moment ; its sole aim, at the time, being the safe and speedy relief of the distressing symptoms. Although constantly attempted, this object has hitherto not been obtained, notwithstanding the long and tedious trials of all the means which theory and empiricism suggested for the purpose. The belief has consequently spread that unknown peculiarities—

caprices—of the disease are responsible for the failure of the treatment. But a glance at the subject will show that the want of success is really due to the indiscriminate application of remedies, of which each possesses a different physiological action. It will be readily conceded that chloroform and coffee, opium and stramonium, morphia and atropia, niter paper and emetics, tobacco and hot brandy and water, etc.—all side by side extolled as valuable remedial agents—are not so closely allied as regards their physiological actions as to be convertible; and if they are intended to break “the bronchial spasm”—which, I was amazed to learn, resists even chloroform (Thorowgood, Lettsomian Lectures, etc., 1879, page 72)—they require, each of them, special circumstances favorable for the production of that effect. But no such indications exist. The very idea of their existence is inconsistent with the prevalent theory of the disease. According to this, paroxysmal dyspnoea, accompanied by sibilation, denotes bronchial spasm, whatever else may be present at the time; and so significant are these symptoms, that attention to them permits to read off, as it were, the disease at a distance (Hyde Salter, *Lancet*, vol. i, 1870, page 147). The immediate consequence of this doctrine is that, in the choice of remedies—if choice there be—“no guide is known except”—the saddest of instructors—“the former experience of the patient” (Salter, *op. cit.*, page 183); hence a practice of which the following case is an apt illustration. “For 340 nights out of 365, the patient had to sit up, struggling for breath; and the effects of ordinary remedies may be thus briefly given: burning niter-paper, useless or worse than useless; tobacco or stramonium, smoked *ad nauseam*, slight benefit; chloroform inhalation, transient relief; nitrite of amyl, tried repeatedly and carefully, entirely useless; phosphorus, arsenic, iodide of potassium, no benefit whatever” (Thorowgood, *op. cit.*, p. 71). Such blind groping after remedies, in the presence of urgent symptoms, must needs defeat its own object. There can be no relief, safe and speedy—that is the lesson taught by failure—unless the remedies adopted are such as counteract or remove the proximate causes of the dyspnoea; and their selection depends in each case on the considerate appreciation of the surrounding circumstances.

It is not my present intention to enumerate all the measures that, in case of emergency, may be taken for the relief of a dyspnoeal seizure. I propose merely to trace the indications for the purely medicinal treatment of those forms of asthma which are distinguished by the frequency of their occurrence and by the severity of the symptoms.

Foremost amongst them is oedema of the lungs, as it occurs in the obese and the cachectic, and in those suffering from valvular lesions of the heart, from gout, and from renal disease (uræmic asthma). It is invariably the result of a temporary failure of the left ventricle, while the right is still able to act;* and develops itself, either in the midst of apparently perfect health with the suddenness of a fainting fit, or as a rapid exacerbation of an existing cardiac derangement. To understand its pathology, it is well to remember that the constitutional and local causes just mentioned tend to impair the nutrition of the cardiac muscles to an extent varying from the cloudy swelling of the individual fiber, to its brown atrophy or fatty degeneration. The heart, notwithstanding these changes, continues, in ordinary circumstances, to perform its function in accordance with the requirements of the organism, and without painful perception by the patient. It is only when an increased demand is made upon its energy, and on the accession of an irritation, that the organ manifests its inherent weakness, by its inability to meet the one and resist the other, even if both are so slight as to be powerless to cause disturbance in a healthy person. Oedema is thus readily produced by imperfect ventilation of the lungs, as it arises from the rapid extension of bronchitis, from embolism of a large branch of the pulmonary artery and from extensive meteorismus. The reason is, that the blood, abnormally rich in carbonic acid, irritates the centers of respiration and circulation, and that, finally, while the right ventricle is able to empty part of its contents into the pulmonary artery, which possesses no tonus, the left is incapable of doing so, on account of the increased tension of the systemic vessels.

In these circumstances, the subcutaneous injection of one-sixth

* C. Mayer. *Bemerkungen zur Experimentelle Pathologie des Lungenödems. Sitzungsber. der Akad. der Wissensch. Wien*, Band lxxvii. Abth. III; Welch, *Zur Patholog. des Lungenödems. Virchow's Archiv*. Band 72, Heft 2 und 3.

of a grain of morphia acts, indeed, like a charm. As soon as the morphia is absorbed, which requires a longer time than in health, the painful oppression at the chest and the hacking cough disappear; the noisy and frequent respiration becomes quiet and slower; the cyanosis of the face and lips give way to a flush; the cold and clammy skin becomes warm and moist; the contracted artery widens and fills; the heart regains its previous force and rhythm, and with them return its impulse, its sounds, and its murmurs, while the consequences of its temporary failure as regards the lungs subside more or less completely. There is, subsequently, neither languor nor drowsiness, even in those who at other times are very susceptible to the influence of narcotics. Morphia merely counteracts the effect of the abnormal quantity of carbonic acid in the blood, and, with the attainment of that object, its influence is exhausted, as shown by the following cases:

Mrs. H., aged 42, tall, stout, has for several years been subject to cough and to attacks of dyspnoea. In the foggy weather of November, 1879, she was seized with smarting of the eyes; a great deal of sneezing, and running from the nose; an eruption of the upper lip; sore throat; harsh and painful cough, with scanty expectoration, and much dyspnoea; all the symptoms which, if they occur in summer, are supposed to form a special disease called hay-asthma. On Saturday, November 15th, she went to Eastbourne to get rid of her "cold," but, on arrival, all the symptoms, especially the dyspnoea, became much worse, and on Monday she had to return home. I saw her on November 17th, 1879, at 7 p.m., and noted the following. She sat in bed; she was cyanotic; there was great dyspnoea; she complained of pain across the chest and at the insertion of the diaphragm; there was a painful cough, with scanty expectoration; the extremities were cold. Pulse was very small, rapid, and almost countless; respiration noisy, frequent; there was a loud laryngeal noise. The chest wall was raised; the sterno-mastoids, were firmly contracted; the thyroid lying beneath the manubrium; the tongue was clean. On the right, front and back, the percussion note was flat; there was very feeble respiration above, and moist rhonchi at the base. On the left, front and back, better resonance, dry, and loud rhonchi from apex to base. The impulse of

the heart was not felt; its area was enlarged to the left; sounds very feeble. Injection of morphia hydrochlorate, grain $\frac{1}{4}$. In ten minutes, perspiration commenced; the breath was easier, respiration deeper and slower, and the pain diminished. The laryngeal noise disappeared, the resonance of the right side improved, and inspiration was feebly heard; on the left, respiration returned, and the rhonchi became moist; the rhonchi at bases persisted; pulse improved; cardiac sounds distinctly heard. The patient was perspiring much when I left.

November 18th.—She passed a tolerably good night, but had no sleep. The cough was troublesome; the expectoration became more copious, and consisted of black mucous substance mixed with soot. A rational treatment of her bronchitis was now adopted, and she recovered by the end of the week.

Mr. L., aged sixty-two, tall, stout, for twenty years subject to gout, had signs of dilatation of the left ventricle, and of degeneration of the cardiac muscles. In December, 1878, he had an attack of gout in the left toe; subsequently, other joints were affected, and at last both lower extremities swelled. Bronchitis then followed, complicated by attacks of asthma. His friends noticed that he had frequent fainting fits: his face suddenly turned blue, the heart seemed to stop, and cold perspiration appeared on the forehead. On December 10th, 1878, when I saw him, he had great dyspnoea, with loud wheezing and troublesome cough. He felt exhausted from the many sleepless nights through which he had passed. Respiration rather frequent. The large and roomy thorax was generally deficient in resonance, and, on auscultation, there were loud, sonorous and sibilant rhonchi from apex or base. No cardiac impulse was seen or felt. The action of the heart was rapid, its sounds impure. The pulse was empty; there was considerable anasarca; the urine was scanty, but not albuminous; the tongue was thickly coated; great tympanitis; constipation. At 5 p. m., injection of hydrochlorate of morphia grain $\frac{1}{4}$. Immediate relief. He was ordered pil. hydrarg. gr. x. There was much improvement the next morning; the patient had passed a good night; he had no dyspnoea; the cough was less troublesome; and he had slept several hours. His bowels had copiously acted. He had a light

breakfast, which he enjoyed. The expectoration consisted of a few pellets of black mucus. The thorax was much clearer. The pulse was felt at the wrist; it was frequent and intermittent. Now that the pressing symptoms of the moment had been successfully combated, a deliberate treatment was adopted, by which the patient greatly benefited.

In all cases of that kind, the subcutaneous injection of morphia is preferable to the internal administration of opium; for in the first place, the action of opium is not quite identical with that of its alkaloid; and, in the second, the absorption by the gastric mucous membrane is, owing to the stasis in the systemic vessels, slow and imperfect; so that, to obtain rapidly the desired effect, a very large dose would be required, of which the consequences would be still felt when the indication for the use of the drug had passed off. If, nevertheless, opium has to be administered internally, it should be given in a moderately large dose, and should be combined, to facilitate its absorption, with stimulants, as ether or aromatic spirit of ammonia.

But I must not omit to add that the subcutaneous injection of morphia is an operation with the performance of which neither the patient nor his friends may be entrusted. It is an operation, useful only in special circumstances, satisfying the imperative demands of the moment, but incapable of producing more than a transient benefit. Its thoughtless repetition with each recurrent attack not only not relieves—unless the dose be considerably increased—but aggravates the disease. A craving for morphia is readily established, but not easily eradicated.

To the use of stimulants in these cases the same objection applies as to that of opium. Their action, even in large doses, is comparatively slow; and, though they temporarily restore the activity of the heart, they do not remove so rapidly and so fully as morphia the peripheral obstacle—viz., the increased arterial tension. Dr. Thorowgood recommends large doses of caffeine—four grains in a cup of coffee (*loc. cit.*, p. 72). This preparation is, I presume, indicated if it be desired to produce copious diuresis, so as to diminish the volume of the blood; but, on account of the peculiar rigidity of the cardiac muscles which large doses

of caffen are apt to produce, that remedy should be cautiously used.

The distressing form of dyspnœa which arises from extensive meteorismus requires for its relief the removal of the fermenting substances, either by emetics, if they are as yet in the stomach, or by enemta, if they are retained in the descending colon or rectum. If the removal be impracticable, the fermentation may be arrested by small (five-grain) doses of chloral-hydrate, or by about two drachms of the creasote mixture (*P. B.*), both of which—the former with the addition of a little mucilage—are given in some aromatic water. After one or two doses of these mixtures, the intense symptoms soon subside.

In cases of obstruction of the air-passages by plugs of mucus, the means of relief vary according to the position of the latter. Emetics are indicated if the block exist in the peripheral portions of the lungs; and, as they are employed only on account of the mechanical compression of the chest in the act of vomiting, preference is therefore to be given to those remedies which produce the least amount of depression. Hence the sulphate of copper or of zinc is preferable to antimony or ipecacuanha. I have frequently made subcutaneous injections of apomorphin—from one-twelfth to one-tenth of a grain—and I have found them best answer the purpose.

Vomiting, i. e., compression of the chest, has little influence on the plugs of the larger bronchi. Hyde Salter correctly observed that, in the cases in which ipecacuanha afforded relief, this occurred before vomiting took place; and he truly remarked that ipecacuanha acted as a depressant—not, as he imagined, by relaxing the bronchial spasm, but by producing serous exudation around the tough pellets of mucus. The same effect, however, may be obtained in a less circuitous route, and with less general disturbance. The “antispasmodic fumes,” which have been empirically recommended, owe their virtue to the presence of ammonia, and to that of picolin, of pyridin, of lutidin and collidin, as they are evolved in the combustion of niter-paper, of stramonium, of tobacco, and of the various patent “smoking mixtures.” Ammonia and the members of the picolin series produce, when inhaled, intense hyperæmia, as may be seen in

the buccal, pharyngeal and laryngeal mucous membranes of habitual smokers; and the exudation accompanying the hyperæmia tends to soften and to detach the obstructing mucus. Germain Sée has introduced for the purpose iodide of ethyl, of which from six to ten drops inhaled greatly increase the bronchial secretion. Its effect is transient, but unquestionably curative in cases of chronic bronchitis; whereas the fumes of stramonium and of similar drugs, especially if often repeated, aggravate the disease by the intense and lasting congestion which they produce.

The liquid extract of quebracho has of late been largely employed in the treatment of asthma. As yet, there is no indication for its use, except the presence of dyspnœa. A teaspoonful, repeated, if necessary, at intervals of ten minutes, certainly relieves, as I have observed, the dyspnœa of phthisis, of pneumonia, of pleurisy, of emphysema, and of valvular lesions. It has failed of its effect, so far as I have seen, only in two cases of aortic disease; in the one, the patient had been for years accustomed to inhale nitrite of amyl almost every two hours; in the other, there was complication with marked attacks of stenocardia. The active principle of quebracho appears to be gum-resin; but as to its mode of action nothing is known. I have frequently noticed that, after the administration of the drug, there is slight flush of the face, perspiration and occasionally drowsiness; but there are no objective signs on the part of the heart and of the lungs sufficient to account for the relief.—*British Medical Journal*.

ANEURISM OF THE ARCH OF THE AORTA, CURED BY REST, RESTRICTED DIET, AND IODIDE OF POTASSIUM AND ERGOT. By R. STANSBURY SUTTON, A.M., M.D., Fellow of the American Gynæcological Society, etc., etc.

Miss Mary Louise B., resident in the northern part of this county, aged twenty-one, is of delicate parentage, and possesses a highly nervous temperament. In the autumn of 1873 she was working in the garden, assisting in taking up the winter vegetables. After prolonged exertion in a stooping posture, she sud-

denly resumed an erect attitude. Instantly she was seized with violent pain in the region of the heart. This pain, in her own language, caused her to "shriek." Faintness immediately followed and she dropped from her feet. The pain gradually subsided. For six months from this date she had repeated attacks of pain and frequently fainted. On one occasion she fell from a porch and narrowly escaped death. During this time she had no medical care.

In the spring of 1873 her disease was diagnosticated as disease of the heart, and her case was looked upon as hopeless.

On the 4th of July, 1874, about nine months after the seizure in the garden, she was brought to my office. An examination revealed an aneurism of *the descending portion of the arch of the aorta*. Her face was of a purplish hue, and all the veins above the clavicle were turgescient. The aneurism was pressing hard against the second and third ribs just to the left of the sternum. Its thrill was distinct, and its impulse was readily discernible from that of the heart. My diagnosis was confirmed by Dr. Daniel Leasure, now of St. Paul, Minnesota. The prognosis was emphatically unfavorable, and Dr. Leasure expressed the opinion that the patient would scarcely survive the summer.

For a year, to the autumn of 1875, she remained in the city under my care. During this time she was secluded from all excitement, and took three times daily from 10-20 drops of fluid extract of ergot and 5 grains of potassium iodide. The ribs were now bulged up above the plane of the chest wall; the thrill was very loud, and the impulse visible in the second intercostal space. It seemed to me that the end was very near. Fortunately I decided upon another effort. She was sent to her home in the country and put to bed at absolute rest for five and a half out of every six hours—the half hour being allowed for quiet walking about her room. Her nourishment was restricted to ten ounces of material, fluid and solid together, for each twenty-four hours. The ergot and potassium iodide were continued. This regime was strictly adhered to for thirteen months.

At the end of this time I visited her at her own home. I found her in bed and reduced to almost a skeleton. An examination revealed the fact that the aneurism was cured, and the

action of the heart weak and irregular and giving a distinct anæmic bruit. I put her upon drachm doses of bitter wine of iron, increased her nourishment, and gave permission for her to be up and down at will. This was in the autumn of 1876. Her cure appears to be permanent.

At a meeting of the Allegheny County Medical Society, held at Pittsburgh, June 15, 1880, this case was reported and the patient exhibited. A committee consisting of Drs. Thomas J. Gallaher, Andrew Fleming, and S. M. Stevenson was appointed to examine the patient. The committee reported that the aneurism was cured, and that the only evidence of disease at this time was a slight endocardial murmur.—*Am. Jour. of the Med. Sci.*, October, 1880.

THE course pursued by the Guy's Hospital nurse, in dressing, upon her own responsibility, the scalp wound of a patient who subsequently died from fracture of the skull, which she had not recognized, appears not to be, as might be supposed from the post mortem evidence at the coroner's inquest (which revealed serious injury to the back part of the head, immediately beneath the dressed wound), an isolated example of forgetfulness of duty or omission of instructions. We have before us details of the case of a patient who applied lately at another metropolitan hospital, with a scalp wound on the vertex. The wound was "clean cut," and did not extend deep enough to expose the bone; it was about an inch long; the surrounding hair had been clipped off, apparently preparatory to the application of a surgical dressing. The statement of the man, who was sober, was to the effect that he had gone to Guy's and asked to see the house surgeon or dresser, but that a nurse had informed him that he could not see that official, and immediately she began to cut the hair from around the wound. Upon this the man left and came to St. Thomas's, where he was attended to. This incident suffices to show the distressing scandal exposed at this inquest is a logical sequence of the system by which the nursing at Guy's has been made to supercede and override the responsibility of the medical staff, instead of being the docile and skilled instrument. The

nurse is one of the Leicester nurses introduced by the matron as being trained in the system which she carried out at the hospital of that town prior to her appointment at Guy's Hospital. Nothing could more clearly justify the demand of the staff that the system be abolished root and branch.—*Brit. Med. Jour.*, Oct. 30, 1880.

GLASS HOUSES AND STONES.—The author of the Guide to European Universities, Dr. Hardwicke, of Sheffield, has been induced, by the success of his pamphlet, to reproduce the information therein conveyed in book form, together with the results of his inquiries into other systems of education, and other countries than Europe. Here the reader will find information respecting the educational bodies, examinations, and medical laws of every civilized state, and he will also come to the humiliating confession that though there exist a good many time-honored institutions in the United States, and an anxiety to put matters on a scientific footing in others, yet farther South the condition of medicine is as bad as can possibly be imagined. Bankrupt bakers, grocers, and others who have failed to make a living, afterwards start as 'doctor,' and soon get into *full practice*, by parading their names before the public, through the medium of the daily papers and street placards, with "Dr." and "M. D." attached to them, without a word being said by the authorities. All this is very humiliating, but we could show our author identical counterparts in London, Birmingham, Glasgow, and other large cities, without a word being said by the authorities. But they, not Dr. Hardwicke, are responsible for this, and we cordially thank him for his decidedly useful addition to our knowledge of medical education in other countries.—*Medical Press and Circular*.

Obituary.

REPORT OF MEMORIAL COMMITTEE, CHICAGO MEDICAL SOCIETY,
IN VIEW OF THE DECEASE OF THE LATE DR. F. H. DAVIS,
PRESENTED NOV. 15, 1880.

Dr. Frank Howard Davis was born in the city of New York in 1848. He began the study of medicine in 1867, at the Chicago Medical College, and was graduated in 1871. At the same college he received the prize for the best thesis presented to the faculty by the class of that year.

In order to prepare himself more thoroughly for the duties of his chosen profession, he spent several years abroad, dividing his time between London, Paris and Vienna, and devoting himself specially to the study and practice of laryngoscopy. That he was studious and active in his profession is evident from the number of appointments with which he was favored. He was treasurer of the Chicago Medical Society. He was secretary of the Association of American Editors; also secretary of the American Laryngological Association. He was an active member of the American Medical Association, the Illinois State Medical Society and the Alumni Association of the Chicago Medical College. He was also an active member of the Chicago Academy of Sciences, of which he was librarian at the time of his death.

The doctor wrote a number of articles, which have appeared in different medical journals, and which have also been published in the transactions of the associations with which he was connected. Among the more important were probably his inaugural thesis: "Atmospheric Germs and their Relation to Disease" (published in *Chicago Medical Examiner*, vol. 12, number 4). "Some

Facts regarding the Relations existing between the Prevalence of Pulmonary Tuberculosis and Hygienic Surroundings of the People" (American Medical Association Transactions 1878, p. 147). "A Study of Nine Hundred and Sixty-five Cases of Chronic Pulmonary Disease" (American Med. Ass'n 1877, p. 269). "Clinical Lectures on Various Important Diseases," by Dr. N. S. Davis; edited by Frank H. Davis (published by H. C. Lea, Phila.). "Inhalations in Pulmonary Diseases" (Illinois Medical Society, 1880).

The doctor in 1875 was united in marriage to Miss Anna Smith Marcy, daughter of Prof. Oliver Marcy, of the Northwestern University.

Their marriage was blessed with two children—a son and a daughter, who, with their mother, now mourn the loss of a most devoted husband and affectionate father. Few young men had the opportunities of preparing themselves for the arduous and responsible duties of life that the doctor enjoyed, and no one ever employed them to greater advantage. The chief cause of his death was "suppurative inflammation of the left kidney," accompanied by so persistent a reflex irritation of the stomach that during the last few weeks of life his sole dependence for support was on nutritive enemata. The doctor had the highest regard for professional honor, but those only who knew him intimately could appreciate fully his kind, sensitive nature.

WHEREAS, The Chicago Medical Society has heard with great regret of the death of Frank Howard Davis, long a member and officer of this society,

Resolved, That the Chicago Medical Society is called upon to mourn the loss of an active, efficient member and officer, who was ever faithful in the discharge of his duties.

Resolved, That as a tribute of respect to his memory, we wish to place upon our records our appreciation of his character and of his services to the society and the profession.

Resolved, That while we fully realize our own loss, we would extend our most heartfelt sympathy and condolence to his afflicted family, and particularly his bereaved father, to whom we are all personally greatly attached.

Resolved, That a copy of these resolutions of respect and condolence be sent to his family, and also to the city medical journals and daily press for publication.

Your committee,

H. P. MERRIMAN,
LYMAN WARE,
ROSWELL PARK.

Per L. H. MONTGOMERY,
Secretary Chicago Medical Society.

We clip the following from the *Minneapolis Tribune* of November 21st, 1880 :

Dr. Calvin G. Goodrich died at his residence, corner of Seventh Street and Fourth Avenue South, at 11 a. m. yesterday. The above simple announcement, though not a matter of surprise to the many friends of the deceased, is nevertheless a cause for deep regret and wide-spread sorrow. In the death of Dr. Goodrich a wife has lost a noble and generous husband ; children will mourn a kind, sympathetic and loving father ; the members of the medical profession will part with an honored, intelligent and eminent representative ; and Minneapolis will lose a valued, high-minded and useful citizen. Centenary Church of this city has lost an influential member, and God has called home a good and faithful servant.

Dr. Goodrich was born at Petersburg, Va., May 11, 1820, and was one of a family of eleven children. His father, a prominent Virginia lawyer, died when the deceased was but six years old, and an education and a start in life had to be secured as the result of many self-denials, and an indomitable perseverance and personal energy. Entering school at Greencastle, Indiana, where the family afterward resided, Dr. Goodrich finished his education—at the same time contributing to the support of his mother and her family. His next step in life was to enter the Medical College of Cincinnati, Ohio, where he graduated in 1845, and immediately began the practice of his chosen profession at Richmond, Indiana, where he remained until 1848, when he removed to

Oxford, Ohio, where he remained until 1868, the date of his removal to Minneapolis. Since he made this city his home, more than twelve years ago, his daily life has been familiar to all, and does not need to be reviewed. He purchased upon his arrival, of T. A. Harrison, his present homestead, where he has ever since resided, making many friends and building up an extensive practice. As a citizen he has always been public spirited, enterprising and above reproach. In the year 1848, deceased was married to Miss Mary A. Wall, of Richmond, Indiana, the mother of the only surviving children, all but one of whom are residents of Minneapolis. They are: Mrs. Thomas Lowry, Mrs. Volney S. Irish, E. L. Goodrich, and Calvin Goodrich, Jr. Mrs. Goodrich died on the 25th day of the present month, eight years ago, loved and mourned by all who knew her. In 1875 Dr. Goodrich was re-married to Mrs. Harriet Dodman, of Worcester, Mass., who survives her husband, and has the sympathy of friends and the entire community in the deep affliction which has befallen her. Deceased had been ill for several weeks, death finally resulting from pneumonia and quick consumption.

Items.

THE TREATMENT OF WRITERS' PALSY, OR *Crampe des Ecrivains*.

The symptoms of writers' palsy are well known and vary from the mild fatigue of the fingers employed in holding the pen in slightly developed forms of the trouble, to severe pain or ache of the overused digits, with tender points over several articulations and occasional ache of the entire extremity. There is rarely a true paralysis, but, in aggravated cases, mild arthritis, usually of the right first carpo-metacarpal or metacarpo-phalangeal articulation, due without doubt to the fact that the pen or pencil, when supported in the ordinary Spencerian position as taught in the schools, while guided by the extremities of the three first fingers,

requires that the pressure of the second and third should be completely antagonized by the first or the thumb. Moreover the action of the hand in chirography is invariably from left to right of the page and it thus becomes necessary for the thumb to do the exclusive work of pushing the pen the entire distance, as the other fingers are, in consequence of their position, incapable of exciting any tractile force—that is when the fingers alone perform the task. When the motions of the pen are performed by the muscles of the arm or forearm the strain of course falls upon the latter.

The relief of this condition, never accomplished while the exciting cause is in operation, calls for rest of the affected part; and this demand, when the writer is supporting himself, or as is often the case, others besides himself, by his penmanship, is frequently uttered in vain. The prompt and permanent relief of the entire trouble by the use of the type-writer is now an acknowledged fact.

It is proper to add that this statement is made, not for the purpose of enumerating the merits of this exceedingly ingenious piece of mechanism, but to call attention to its remarkable value to those affected with writers' cramp. We are not in communication with those engaged in the sale of the instrument nor are these paragraphs penned under the stimulus of any of those ingenious promptings which the modern advertiser has made familiar to the public. The opinion expressed here is based upon a knowledge of some fifteen cases, in each of which the writer was surprised and delighted with the relief attained.

It is well known that the keys of the type-writer are moved by both hands and the work of each may be divided between as many fingers as the skill of the operator can employ. The labor is then distributed to both superior muscles, and, what is more, the gentle force required is not lateral, as in penmanship, but in the direction of gravity. Thus it happens that the work of an entire business day is accomplished with less fatigue than an hour's labor with the now old-fashioned pen.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Dec. 1 and 15.

West Chicago Medical Society—Mondays, Dec. 8 and 22.

Biological Society—Wednesday, Dec. 3.

MONDAY.

CLINICS.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.

Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.

Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.

Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.

Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.

Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.

Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.

Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.

Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopædic, by Prof. Owens.

Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.

Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

